Arizona

Arizona's Instrument to Measure Standards

2012
Technical Report

Submitted to the
Arizona Department of Education
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ALWAYS LEARNING PEARSON

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FOREWORD

The technical information herein is intended for use by those who evaluate tests, interpret scores, or use test results in making educational decisions. It is assumed that the reader has technical knowledge of test construction and measurement procedures, as stated in *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, National Council on Measurement in Education, 1999).

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PART 1: EXECUTIVE SUMMARY

This document provides information regarding processes and procedures implemented in the Fall 2011 and Spring 2012 Arizona Instrument to Measure Standards (AIMS) assessments for the development of tests, analysis of data, calibration, scoring, and scaling. This document also describes the results of the Fall 2011 and Spring 2012 AIMS assessments. The technical information in this report is intended for those who evaluate tests, interpret scores, or use test results in making educational decisions.

This document also provides information relevant to the *Standards for Educational and Psychological Testing* (American Education Research Association, American Psychological Association, National Council on Measurement in Education, 1999). The beginning of each part of this technical report will list the different standards addressed therein. Part 1 of the technical report addresses standards 2.7, 3.2, 3.3, 6.3, 6.4, 6.15, and 13.6.

The Fall 2011 AIMS assessments were administered in reading, writing, and mathematics to students in high school who were in Grades 11 and 12 and had not yet obtained a passing score in all three of the content areas. Additionally, students wishing to improve their scores, in any content area, and attain the exceeding category were eligible for this assessment.

The Spring 2012 AIMS tests were designed and developed to provide fair and accurate ability scores that support appropriate, meaningful, and useful educational decisions. In addition to the evidence provided in Part 2 (Involvement of Arizona Educators), additional validity evidence may be found in the following parts as described: Part 3 (Test Design), Part 4 (Test Development), Part 5 (Test Administration), Part 6 (Classical Item Analysis), Part 7 (Calibration, Scaling and Equating), Part 8 (Reliability), and Part 10 (Classification). As the technical report progresses chapter by chapter, it moves through the phases of the testing cycle. Each part of the technical report details the procedures and processes applied in the creation of AIMS, as well as their results. Each part also highlights the meaning and significance of the procedures, processes, and results in terms of content and construct validity and the relationship to the *Standards.*

The Spring 2012 AIMS assessments were administered in reading, writing, and mathematics to students in Grades 3-8 and high school. This was the eighth year that all Grades 3 through 8 and high school were administered AIMS. Students in Grades 3, 5, and 8 have been taking AIMS assessments since the 1999-2000 school year, and students in high school began taking AIMS (Form A) in reading, writing, and mathematics in 1999. The AIMS assessments are designed to measure Arizona students' performance on the Arizona content standards. The AIMS Reading tests are written to Arizona content standards adopted in March 2003. The AIMS writing tests are written to content standards adopted in June 2004. The writing tests in Grades 5, 6, 7 and high school were revised to include multiple-choice items along with a written essay in spring 2011. New performance standards were set for these writing tests in spring 2011. The AIMS Mathematics tests assess content standards adopted in June 2008. Performance standards were set for the mathematics tests in spring 2010.

The AIMS high school tests in reading, writing, and mathematics are criterion-reference competency tests. Students' test scores on the AIMS high school tests are one component of the high school graduation requirements, and passing scores are required to earn a diploma for students who graduated beginning in spring 2006. Students in Grade 10 have five opportunities to pass the test prior to their regularly scheduled graduation date. The AIMS high school tests in reading and mathematics consist of multiple-choice items. The AIMS high school test in writing consists of a set

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of multiple choice items and a single prompt essay, which is scored using a holistic six-point rubric (see Appendix D).

The AIMS Reading/Language and Mathematics tests for Grades 3-8 are dual purpose assessments—both criterion and norm-referenced scores are given based on performance on the tests. The AIMS Writing tests for Grades 5, 6, and 7 consist of a set of multiple-choice items and a single prompt essay, which is scored using a holistic six-point rubric (Appendix D). Criterion-referenced scores are reported in reading, writing, and mathematics. Norm-reference scores are reported in reading, language, and mathematics. Each reading, writing, and mathematics test consists of items written by Arizona teachers and items from Pearson's norm-referenced test, the *Stanford Achievement Test* Series, Tenth Edition (Standardization edition copyright © 2002. Final edition copyright © 2003).

Some of the Stanford 10 items contribute to both criterion-referenced and norm-referenced scores. These items all match the Arizona content standards. This design eliminated the need for students to take two separate tests and was first implemented for the 2004-2005 school year. All reading, language, and mathematics tests consist of multiple-choice items only.

The Spring 2012 AIMS assessments were also administered in science to students in Grades 4, 8, and high school. This was the fifth year that Grades 4, 8, and high school were administered science. The AIMS Science tests are criterion-reference competency tests, which consist of multiple-choice items. The science test consists of items written entirely by Arizona teachers.

The AIMS assessments are designed to measure Arizona students' performance on the Arizona content standards. All AIMS Science tests are written to Arizona content standards approved by the State Board on May 24, 2004, and updated on March 10, 2005.

Based on the input of Arizona educators and the Arizona's Instrument to Measurement Standards, a design was derived, developed, administered, and scored. The present technical report documents all aspects of the testing cycle in the subsequent chapters. The structure of the present technical report mirrors the testing cycle. A brief content summary of the report is provided below.

Involvement of Arizona Educators

- Part 2 of this report describes the involvement of Arizona educators in test development.
- Several committees met throughout the year in preparation for the 2012 AIMS assessments.

Test Design and Development

- Part 3 of this report describes the test design and the item development process. It provides the content frameworks and the blueprints upon which all of the AIMS tests are based. This section also includes descriptions and the structure of each AIMS test administered in the 2011-2012 academic year.
- Part 4 of this report provides a chronological description of the passage, stimulus, and item development process including modification of specifications, committee passage/stimulus reviews, item content and sensitivity reviews, data analysis and item selection committees, and customer and contractor reviews to guarantee a quality, error-free product.

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Administration

- Part 5 briefly describes test administration, accommodations, security, and the written procedures available to all test administrations and school personnel.
- The accommodations were available to eligible students while testing on AIMS.
- The same accommodations were available for both Fall 2011 and Spring 2012 AIMS.
- Personnel involved in testing administration were asked to sign a security agreement form certifying that all AIMS tests were administered under secure testing conditions.
- In order to ensure standardized testing administration for all students, a Test Coordinator Manual was made available to all test coordinators. Also, Test Administration Directions were made available to all test administrators.

Data for Operational Analysis

- Part 6 describes the data used for calibration and scaling of the Spring 2012 AIMS and also presents classical test statistics and item analysis statistics.
- In order to ensure valid calibration and scaling, several data cleaning steps occurred.
- The values for Cronbach's alpha were provided as a measure of internal consistency.

Calibration, Scaling, and Equating

- Part 7 reviews calibration, equating, scoring methods, and calibration results. Evaluation of the calibration results includes model-to-item fit.
- Displacement values and other item characteristics were considered for evaluating anchor items.
- Part 7 also shows the relationships between raw scores and scale score through scoring tables.
- Scaling results including the standard error of measurement are also presented.
- For all content areas, scoring tables were established using students' responses to the 2012 Spring administration.

Test Results

- Part 8 summarizes information about the results of the 2012 Spring administration of AIMS 3-8 and AIMS high school. The test results for different ethnic backgrounds and special program membership status are provided.
- Results for AIMS high school assessments are reported by graduating cohort, viz., for students graduating in years from 2012 to 2014.
- Scale score frequency distributions with three cut scores are also presented.

Validity Evidence

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- Part 9 reviews the main validity issues discussed in all prior chapters and provides additional validity evidence supporting the AIMS tests.
- For reading, mathematics, and science, Cronbach's alpha was estimated as a measure of internal consistency, and for writing, inter-rater position consistency and stratified alpha is provided.
- An analysis of differential item functioning is presented.
- Correlations among assessments are presented in the context of construct validity.

Classification

- Part 10 provides information regarding classification consistency and accuracy when students were classified into proficiency categories.
- The cut scores used for classifying proficiency categories were determined during standard setting and adopted by the State Board of Education.

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PART 2: INVOLVEMENT OF ARIZONA EDUCATORS AT ALL LEVELS

Part 2 of the technical report addresses the involvement of Arizona educators in test development. This part of the technical report addresses standard 3.5 of the *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 1999).

Several committees met throughout the year in preparation for the 2012 AIMS writing, reading, math, and science assessments. These committees included teachers, curriculum specialists, and administrators from across the state and were an integral part of both the AIMS test development processes and AIMS results interpretation.

The 2012 AIMS called for administering one operational test per grade per content area. In order to build the AIMS item bank, multiple field test forms were administered per grade per content area ranging from 20 field test items to 60 field test items. Committee meetings focused on the development and selection of all items to be tested in spring 2012.

The test development committee meetings included:

- Reading Passage Content and Bias/Sensitivity Review, conducted in March 10-11, 2011, in which Arizona educators reviewed newly developed passages to verify the content's accuracy and to ensure topics were appropriate and would not favor a particular gender or ethnic group;
- Item Writing Workshops, conducted in April 2011, in which AZ educators wrote and edited items aligned to the content standards for possible use in spring 2012 as field test items;
- Writing Alignment Study, conducted in June 28-29, 2011, in which Arizona educators reviewed the new writing assessment for alignment to the Arizona content standards. The Webb Alignment Tool (Norman Webb) was utilized to insure that the new Writing test was aligned to the content standards.
- Item Content and Bias/Sensitivity Review, conducted in July 2011, in which educators reviewed the items written and edited in June 2011 to ensure the content was appropriate to the standards being assessed and that the items would not favor a particular gender or ethnic group;
- Data Analysis, conducted in July 2011, in which educators examined the item data generated during the Spring 2011 field test and assigned each item a status code to be included with the item information in the item bank; and
- Item Selection, conducted in July 2011, in which educators chose items matching the test blueprints from the item bank and the pool of approved field tested items administered in spring 2011 for inclusion in the 2012 assessments.

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PART 3: TEST DESIGN

Part 3 of the technical report provides information regarding test design. The following AERA/APA/NCME standards are addressed: 1.2, 1.6, 3.1, 3.2, 3.3, 3.11, 6.4, 6.15, 13.3, and 13.5.

3.1 Content Standards

The AIMS assessments are designed to measure performance on the Arizona content standards adopted in March 2003 for reading, June 2008 for mathematics, June 2004 for writing, and March 2005 for science. These standards are organized by strand, concept, and performance objective. The AIMS Reading and Mathematics test blueprints are based on the concepts and strands of the Arizona content standards, presented in figures 3.1.1-3.1.2. The AIMS writing tests were revised in spring 2011 to include multiple-choice items and a writing prompt. The writing tests address the six concepts that are incorporated in Strand 2 of the Writing Standard. Figure 3.1.3 presents the statement of the six concepts in Strand 2.The AIMS Science test blueprints are based on the concepts and strands of the Arizona content standards, presented in figures 3.1.4 through 3.1.6.

Figure 3.1.1
Arizona Reading Concepts and Strands

Strand 1: Reading Process

- **Concept 1: Print Concepts**
- **Concept 3: Phonics**
- **Concept 4: Vocabulary**
- **Concept 6: Comprehension Strategies**

Strand 2: Comprehending Literary Text

- **Concept 1: Elements of Literature**
- **Concept 2: Historical and Cultural Aspects**

Strand 3: Comprehending Informational Text

- **Concept 1: Expository Text**
- **Concept 2: Functional Text**
- **Concept 3: Persuasive Text**

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Figure 3.1.2
Arizona Mathematics Concepts and Strands

Strand 1: Number and Operations

- **Concept 1: Number Sense**
- **Concept 2: Numerical Operations**
- **Concept 3: Estimation**

Strand 2: Data Analysis, Probability and Discrete Math

- **Concept 1: Data Analysis (Statistics)**
- **Concept 2: Probability**
- **Concept 3: Systematic Listing and Counting**
- **Concept 4: Vertex-Edge Graphs**

Strand 3: Patterns, Algebra and Functions

- **Concept 1: Patterns**
- **Concept 2: Functions and Relationships**
- **Concept 3: Algebraic Representations**
- **Concept 4: Analysis of Change**

Strand 4: Geometry and Measurement

- **Concept 1: Geometric Properties**
- **Concept 2: Transformation of Shapes**
- **Concept 3: Coordinate Geometry**
- **Concept 4: Measurement**

Strand 5: Structure and Logic

- **Concept 1: Algorithms and Algorithmic Thinking**
- **Concept 2: Logic, Reasoning, Problem Solving and Proof**

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Figure 3.1.3
Arizona Writing Concepts in Strand 2

Trait 1: Ideas and Content
Trait 2: Organization
Trait 3: Voice
Trait 4: Word Choice
Trait 5: Sentence Fluency
Trait 6: Conventions

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Figure 3.1.4
Arizona Science Concepts and Strands – Grade 4

Strand 1: Inquiry Process

- **Concept 1: Observations, Questions, and Hypotheses**
- **Concept 2: Scientific Testing (Investigating and Modeling)**
- **Concept 3: Analysis and Conclusions**
- **Concept 4: Communication**

Strand 2: History and Nature of Science

- **Concept 1: History of Science as a Human Endeavor**
- **Concept 2: Nature of Scientific Knowledge**

Strand 3: Science in Personal and Social Perspectives

- **Concept 1: Changes in Environments**
- **Concept 2: Science and Technology in Society**

Strand 4: Life Science

- **Concept 1: Characteristics of Organisms**
- **Concept 2: Life Cycles**
- **Concept 3: Organisms and Environments**
- **Concept 4: Diversity, Adaptation, and Behavior**

Strand 5: Physical Science

- **Concept 1: Properties of Objects and Materials**
- **Concept 2: Position and Motion of Objects**
- **Concept 3: Energy and Magnetism**

Strand 6: Earth and Space Science

- **Concept 1: Properties of Earth Materials**
- **Concept 2: Earth's Processes and Systems**
- **Concept 3: Changes in the Earth and Sky**

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Figure 3.1.5
Arizona Science Concepts and Strands – Grade 8

Strand 1: Inquiry Process

- **Concept 1: Observations, Questions, and Hypotheses**
- **Concept 2: Scientific Testing (Investigating and Modeling)**
- **Concept 3: Analysis and Conclusions**
- **Concept 4: Communication**

Strand 2: History and Nature of Science

- **Concept 1: History of Science as a Human Endeavor**
- **Concept 2: Nature of Scientific Knowledge**

Strand 3: Science in Personal and Social Perspectives

- **Concept 1: Changes in Environments**
- **Concept 2: Science and Technology in Society**

Strand 4: Life Science

- **Concept 1: Structure and Function in Living Systems**
- **Concept 2: Reproduction and Heredity**
- **Concept 3: Populations of Organisms in an Ecosystem**
- **Concept 4: Diversity, Adaptation, and Behavior**

Strand 5: Physical Science

- **Concept 1: Properties and Changes of Properties in Matter**
- **Concept 2: Motion and Forces**
- **Concept 3: Transfer of Energy**

Strand 6: Earth and Space Science

- **Concept 1: Structure of the Earth**
- **Concept 2: Earth's Processes and Systems**
- **Concept 3: Earth in the Solar System**

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Figure 3.1.6
Arizona Science Concepts and Strands – High School

Strand 1: Inquiry Process

- **Concept 1: Observations, Questions, and Hypotheses**
- **Concept 2: Scientific Testing (Investigating and Modeling)**
- **Concept 3: Analysis, Conclusions, and Refinements**
- **Concept 4: Communication**

Strand 2: History and Nature of Science

- **Concept 1: History of Science as a Human Endeavor**
- **Concept 2: Nature of Scientific Knowledge**

Strand 3: Science in Personal and Social Perspectives

- **Concept 1: Changes in Environments**
- **Concept 2: Science and Technology in Society**
- **Concept 3: Human Population Characteristics**

Strand 4: Life Science

- **Concept 1: The Cell**
- **Concept 2: Molecular Basis of Heredity**
- **Concept 3: Interdependence of Organisms**
- **Concept 4: Biological Evolution**
- **Concept 5: Matter, Energy, and Organization in Living Systems (Including Human Systems)**

Strand 5: Physical Science

- **Concept 1: Structure and Properties of Matter**
- **Concept 2: Motions and Forces**
- **Concept 3: Conservation of Energy and Increase in Disorder**
- **Concept 4: Chemical Reactions**
- **Concept 5: Interactions of Energy and Matter**

Strand 6: Earth and Space Science

- **Concept 1: Geochemical Cycles**
- **Concept 2: Energy in the Earth System (Both Internal and External)**
- **Concept 3: Origin and Evolution of the Earth System**
- **Concept 4: Origin and Evolution of the Universe**

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3.2 Test Blueprints

A test blueprint designates the percentage of items that should measure each strand and concept. All AIMS assessments were designed in accordance with the following blueprints. Further discussion of item selection to match the blueprints is included in Part 4 of this report.

Table 3.2.1
AIMS Blueprint for Reading

AIMS Reading Blueprint (beginning Spring 2005)

Grade	3	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	7%	0%	9%	11%	0%	17%	22%	0%	11%	11%	11%
	% of strand on test	44%						22%		33%		

Grade	4	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	7%	0%	15%	31%	0%	24%	11%	11%
	% of strand on test	22%						31%		46%		

Grade	5	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	11%	0%	11%	31%	0%	24%	11%	11%
	% of strand on test	22%						31%		46%		

Grade	6	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	11%	0%	11%	31%	0%	24%	11%	11%
	% of strand on test	23%						31%		46%		

Grade	7	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	11%	0%	11%	24%	7%	22%	13%	11%
	% of strand on test	22%						31%		46%		

Grade	8	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	7%	0%	9%	26%	7%	24%	15%	11%
	% of strand on test	17%						33%		50%		

Grade	HS	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	7%	0%	7%	26%	7%	22%	15%	15%
	% of strand on test	15%						33%		52%		

Source: http://www.azed.gov/standards-development-assessment/aims/aims-blueprints/

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Table 3.2.2
AIMS Blueprint for Mathematics

AIMS Mathematics Blueprints (beginning with the 2010 Assessments)

Strand/Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	HS
1. Number and Operations	**42%**	**40%**	**37%**	**34%**	**25%**	**18%**	**6%**
1.1 Number Sense	17%	16%	16%	13%	7%	6%	6%
1.2 Numerical Operations	20%	18%	15%	15%	12%	6%	
1.3 Estimation	6%	6%	6%	6%	6%	6%	
2. Data Analysis/Prob/Discrete	**12%**	**12%**	**18%**	**18%**	**19%**	**18%**	**14%**
2.1 Data Analysis (Statistics)	6%	6%	6%	6%	6%	6%	5%
2.2 Probability	0%	5%	6%	6%	7%	6%	5%
2.3 Systematic Listing and Counting	6%		6%	6%	6%	5%	5%
2.4 Vertex-Edge Graphs							
3. Patterns/Algebra/Functions	**17%**	**18%**	**16%**	**16%**	**19%**	**26%**	**33%**
3.1 Patterns	6%	7%	6%	6%	6%	9%	5%
3.2 Functions and Relationships	11%	0%	0%				7%
3.3 Algebraic Representations		10%	10%	10%	13%	12%	16%
3.4 Analysis of Change	0%					6%	5%
4. Geometry and Measurement	**18%**	**19%**	**15%**	**19%**	**22%**	**24%**	**33%**
4.1 Geometric Properties	9%	7%	7%	6%	13%	6%	13%
4.2 Transformation of Shapes		0%	0%			6%	5%
4.3 Coordinate Geometry	0%	6%	0%	6%	0%	6%	8%
4.4 Measurement	9%	6%	7%	7%	9%	6%	7%
5. Structure and Logic	**11%**	**12%**	**13%**	**13%**	**15%**	**15%**	**14%**
5.1 Algorithms and Algorithmic Thinking 5.2 Logic, Reasoning, Prob Solving, & Proof	11%	12%	13%	13%	15%	15%	14%

The **0%** indicates the lack of the Concept and Performance Objectives in the Mathematics Standard for the specified grade level. 11-21-2008

Source: http://www.azed.gov/standards-development-assessment/aims/aims-blueprints/

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Table 3.2.3
AIMS Blueprint for Science Grade 4

AIMS Science
Grade 4 Test Blueprint

Strand	Concept	Number of POs	Number of testable POs	Number of Test Items	Percentage of Test
Strand 1: Scientific Inquiry	Concept 1: Observations, Questions, and Hypotheses	4	3	6	33.3%
	Concept 2: Scientific Testing (Investigating and Modeling)	5	3	6	
	Concept 3: Analysis and Conclusions	5	5	6	
	Concept 4: Communication	3	1		
Strand 2: History and Nature of Science	Concept 1: History of Science as a Human Endeavor	2	1	6	11.1%
	Concept 2: Nature of Scientific Knowledge	3	2		
Strand 3: Science in Personal and Social Perspectives	Concept 1: Changes in Environments	2	2	6	11.1%
	Concept 2: Science and Technology in Society	3	2		
Strand 4: Life Science	Concept 1: Characteristics Of Organisms	2	2	6	11.1%
	Concept 2: Life Cycles	0	0		
	Concept 3: Organisms and Environments	4	4		
	Concept 4 : Diversity, Adaptation, and Behavior	2	2		
Strand 5: Physical Science	Concept 1: Properties of Objects and Materials	0	0	6	11.1%
	Concept 2: Position and Motion of Objects	0	0		
	Concept 3: Energy and Magnetism	5	5		
Strand 6: Earth and Space Science	Concept 1: Properties of Earth Materials	0	0	0	22.2%
	Concept 2: Earth's Processes and Systems	6	6	6	
	Concept 3: Changes in the Earth and Sky	6	6	6	
12/6/2005	Total Concepts = 18 Testable Concepts = 14	52	44	54	100%

Source: http://www.azed.gov/standards-development-assessment/aims/aims-blueprints/

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Table 3.2.4
AIMS Blueprint for Science Grade 8

AIMS Science
Grade 8 Test Blueprint

Strand	Concept	Number of POs	Number of testable POs	Number of Test Items	Percentage of Test
Strand 1: Scientific Inquiry	Concept 1: Observations, Questions, and Hypotheses	3	3	6	34.5%
	Concept 2: Scientific Testing (Investigating and Modeling)	5	2	4	
	Concept 3: Analysis and Conclusions	8	7	6	
	Concept 4: Communication	5	2	4	
Strand 2: History and Nature of Science	Concept 1: History of Science as a Human Endeavor	4	3	6	10.3%
	Concept 2: Nature of Scientific Knowledge	4	3		
Strand 3: Science in Personal and Social Perspectives	Concept 1: Changes in Environments	2	2	6	10.3%
	Concept 2: Science and Technology in Society	4	2		
Strand 4: Life Science	Concept 1: Structure and Function in Living Organisms	0	0	8	13.8%
	Concept 2: Reproduction and Heredity	3	3		
	Concept 3: Populations of Organisms in an Ecosystem	0	0		
	Concept 4 : Diversity, Adaptation, and Behavior	6	6		
Strand 5: Physical Science	Concept 1: Properties and Changes of Properties in Matter	7	6	10	31.0%
	Concept 2: Motions and Forces	5	5	8	
	Concept 3: Transfer of Energy	0	0	0	
Strand 6: Earth and Space Science	Concept 1: Structure of the Earth	0	0	0	0%
	Concept 2: Earth's Processes and Systems	0	0		
	Concept 3: Earth in the Solar System	0	0		
12/6/2005	Total Concepts = 18 Testable Concepts = 12	56	44	58	100%

Source: http://www.azed.gov/standards-development-assessment/aims/aims-blueprints/

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Table 3.2.5
AIMS Blueprint for Science High School

AIMS Science
High School Test Blueprint

Strand	Concept	Number of POs	Number of testable POs	Number of Test Items	Percentage of Test
Strand 1: Scientific Inquiry	Concept 1: Observations, Questions, and Hypotheses	4	4	6	33.8%
	Concept 2: Scientific Testing (Investigating and Modeling)	5	3	6	
	Concept 3: Analysis, Conclusions, and Refinements	7	5	6	
	Concept 4: Communication	4	2	4	
Strand 2: History and Nature of Science	Concept 1: History of Science as a Human Endeavor	4	2	6	9.2%
	Concept 2: Nature of Scientific Knowledge	4	3		
Strand 3: Science in Personal and Social Perspectives	Concept 1: Changes in Environments	5	3	7	10.8%
	Concept 2: Science and Technology in Society	5	3		
	Concept 3: Human Population Characteristics	3	1		
Strand 4: Life Science	Concept 1: The Cell	5	3	6	46.2%
	Concept 2: Molecular Basis of Heredity	4	3	6	
	Concept 3: Interdependence of Organisms	3	2	6	
	Concept 4: Biological Evolution	6	6	6	
	Concept 5: Matter, Energy, and Organization in Living Systems (Including Human Systems)	5	5	6	
12/6/2005	Total Concepts = 14 Testable Concepts = 14	**64**	**45**	**65**	100%

Source: http://www.azed.gov/standards-development-assessment/aims/aims-blueprints/

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Table 3.2.6
AIMS Blueprint for Writing

AIMS Writing Blueprint May 2010

Strand 2, Concepts 1-6

Grade	3		4		5		6		7		8		10	
Concepts	% MC Items	% of Score	% MC Items	% of Score	% MC Items	% of Score	% MC Items	% of Score	% MC Items	% of Score	% MC Items	% of Score	% MC Items	% of Score
1. Ideas and Content	33%	13%	33%	13%	33%	13%	41%	16%	41%	16%	44%	18%	44%	18%
2. Organization														
3. Voice														
4. Word Choice	22%	9%	22%	9%	22%	9%	26%	10%	26%	10%	33%	13%	33%	13%
5. Sentence Fluency														
6. Conventions	44%	18%	44%	18%	44%	18%	33%	13%	33%	13%	22%	9%	22%	9%
Total Multiple Choice	100%	40%	100%	40%	100%	40%	100%	40%	100%	40%	100%	40%	100%	40%
Extended Response		60%		60%		60%		60%		60%		60%		60%
Totals		100%		100%		100%		100%		100%		100%		100%

AIMS Writing in Grades 3, 4, and 8 has been temporarily suspended.

The Blueprint was proposed on May 29, 2009 and revised on May 19, 2010.

Source: http://www.azed.gov/standards-development-assessment/aims/aims-blueprints/

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3.3 Description of 2012 AIMS Tests

The test blueprints were used with the processes described in detail in Part 4 to develop all AIMS tests administered in 2012. The resulting test configurations are as follows.

3.3.1 High School Reading (Criterion-referenced only)

The AIMS Criterion-Referenced Test (CRT) of high school reading test consisted of 54 multiple-choice items developed by Arizona teachers. The raw scores ranged from 0-54, and scale scores were designed to range from 500 to 900. All items on the high school reading test reported to a criterion-referenced score. No norm-referenced items were included on the high school reading test. Ten reading field test items were embedded with the operational items to form a total of 64 reading test items.

3.3.2 High School Writing (Criterion-referenced only)

The AIMS CRT high school writing test form consisted of one extended response writing prompt and 27 multiple-choice items. The multiple-choice component is weighted 40% and the essay response is weighted 60% in the total score. Responses to the prompt were scored on the holistic six-point rubric (see appendix D). Each essay response received two ratings. Final scores for responses with adjacent ratings were derived by averaging the two ratings. Final scores for responses with discrepant ratings (difference of 2 points) were resolved by a third rater. The raw scores ranged from 0-138, and scale scores were designed to range from 300-700. There were two forms of the high school writing test, A and T. Form T was used as a make-up form administered one week after the administration of Form A. No norm-referenced items were included on the high school writing tests. Five field test items were embedded with the operational items to form a total of 32 multiple-choice items and one prompt.

3.3.3 High School Mathematics (Criterion-referenced only)

The AIMS CRT high school mathematics test form consisted of 85 multiple-choice items developed by Arizona teachers. The raw scores ranged from 0-85, and scale scores were designed to range from 300 to 700. All items on the high school mathematics test reported to a criterion-referenced score. New performance standards were set in spring 2010. No norm-referenced items were included in the high school mathematics test. Fifteen field test items were embedded with the operational items to form a total of 100 test items.

3.3.4 Grades 3, 4, and 8 Reading and Language (Dual Purpose Assessment)

The AIMS reading tests for Grades 3, 4, and 8 consisted of both a criterion-referenced and a norm-referenced component. Some items contributed to the CRT component only, some items contributed to the NRT component only, and some items contributed to both CRT and NRT components. NRT language items were embedded in the reading tests. The language items contributed only to the NRT component. No NRT items were used as anchor items for AIMS.

The AIMS CRT reading tests for Grades 3 and 4 consisted of 39 items developed by Arizona teachers and 15 Stanford 10 items that map to the Arizona content standards, for a total of 54 items. The AIMS CRT reading test for Grade 8 consisted of 40 items developed by Arizona teachers and 14 Stanford 10 items that map to the Arizona content standards, for a total of 54 items. The raw scores on all tests ranged from 0-54. Ten reading field test items written to the Arizona standards were embedded with the operational items. Detailed test structure information can be found in Table

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3.3.4.1. Scale score ranges are presented in Table 3.3.4.2. Scaling of AIMS CRT reading is discussed in Part 7 of this technical report.

The left hand side of Table 3.3.4.1 presents the number of items that contributed to the AIMS reading CRT component, the AIMS reading NRT component, and the AIMS language NRT component for each grade. The number of Stanford 10 reading items that contributed to both AIMS reading CRT and AIMS reading NRT component is also reported. The total number of test items on the test is the composite of the number of field test items, CRT items, NRT reading, and NRT language items. The right hand side of Table 3.3.4.1 presents the number of anchor items used in the annual equating for each grade.

The AIMS NRT reading tests for Grades 3-8 consisted of 25 Stanford 10 reading items from Stanford 10 Form B. The AIMS NRT reading tests closely approximated the test blueprint and statistical criteria of Stanford 10. The Stanford 10 reading items were embedded within the AIMS 3-8 reading test. Scale scores are reported on the Stanford 10 reading NRT scale. Norms are reported using the 2007 Stanford 10 spring norms.

The AIMS NRT language tests for Grades 3-8 consisted of 20 Stanford 10 language items from Stanford 10 Form B. The AIMS NRT language tests closely approximated the test blueprint and statistical criteria of Stanford 10. The Stanford 10 language items were embedded within the AIMS 3-8 reading test. Scale scores are reported on the Stanford 10 language NRT scale. Norms are reported using the 2007 Stanford 10 spring norms.

Table 3.3.4.1
Spring 2012 AIMS Test Structure Reading and Language

Grade	RD FT	RD CRT only	RD NRT /CRT	RD NRT only	RD CRT TOTAL (CRT + NRT/CRT)	LA FT	LA CRT only	LA NRT /CRT	LA NRT only	LA CRT TOTAL (CRT + NRT/CRT)	TOTAL ITEMS ON TEST	RD Anchor (Common CRT: Spring 2011 -2012)	**LA Anchor (Common CRT: Spring 2011 -2012)
3	10	39	15	10	54	N/A	N/A	N/A	20	N/A	94	12	N/A
4	10	39	15	10	54	N/A	N/A	N/A	20	N/A	94	12	N/A
5	5	39	15	10	54	5	18	9	11	27	112	12	9
6	5	39	15	10	54	5	18	9	11	27	112	12	9
7	5	40	14	11	54	5	18	9	11	27	113	12	9
8	10	40	14	11	54	N/A	N/A	N/A	20	N/A	95	12	N/A
HS	10	54	N/A	N/A	54	5	27	N/A	N/A	27	*	13	9

*The high school reading and writing tests are administered separately. The writing test contains 32 multiple-choice items and 1 prompt for 33 total items.

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Table 3.3.4.2
Raw Score and Scale Score ranges of 2012 AIMS CRT Assessments

Content	Grade	Raw Score Range	Scale Score range
Reading	3	0-54	200-640
	4	0-54	220-660
	5	0-54	240-675
	6	0-54	250-690
	7	0-54	260-720
	8	0-54	270-800
	HS*	0-54	500-900
Writing	5	0-69	300-700
	6	0-69	300-700
	7	0-69	300-700
	HS*	0-138	300-700
Mathematics	3	0-66	100-540
	4	0-68	120-560
	5	0-67	140-580
	6	0-68	160-600
	7	0-68	180-620
	8	0-68	200-640
	HS*	0-85	300-700
Science	4	0-54	200-800
	8	0-58	200-800
	HS	0-65	200-800

*HS tests are not on the same scale as G3-8 tests. Scale scores are therefore not comparable between the HS and G3-8 tests. See Part 7 for information regarding the scaling of the AIMS assessment.

3.3.5 Grades 5, 6, and 7 Reading and Writing (Dual Purpose Assessment)

The AIMS reading and writing tests for Grades 5, 6, and 7 are combined into a single test administered over three sessions. They consisted of both a criterion-referenced and a norm-referenced component. Some items contributed to the CRT component only, some items contributed to the NRT component only, and some items contributed to both CRT and NRT components. No NRT items were used as anchor items for AIMS.

The AIMS CRT reading tests for Grades 5 and 6 consisted of 39 items developed by Arizona teachers and 15 Stanford 10 that map to the Arizona content standards, for a total of 54 items. The AIMS CRT reading test for Grade 7 consisted of 40 items developed by Arizona teachers and 14 Stanford 10 items that map to the Arizona content standards, for a total of 54 items. The raw scores on all tests ranged from 0-54. Five reading field test items written to the Arizona standards were embedded with the operational items. Detailed test structure information can be found in Table 3.3.4.1. Scale score ranges are presented in Table 3.3.4.2. Scaling of AIMS CRT reading is discussed in Part 7 of this technical report.

The AIMS CRT writing tests for Grades 5, 6, and 7 consisted of 18 items developed by Arizona teachers and 9 Stanford 10 that map to the Arizona content standards, for a total of 27 items. Five writing field test items written to the Arizona standards were embedded with the operational items. Detailed test structure information can be found in Table 3.3.4.1.

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The writing tests also contain one extended response writing prompt. Responses to the prompt were scored on the six-point holistic rubric. Each response received one rating with a 10% read behind as a check for consistency. The multiple-choice component was weighted 40% and the extended response component was weighted 60%. The raw scores ranged from 0-69. Scale score ranges are presented in Table 3.3.4.2. Scaling of AIMS CRT writing is discussed in Part 7 of this technical report.

3.3.6 Grades 3-8 Mathematics (Dual Purpose Assessment)

The AIMS Mathematics tests for Grades 3-8 consisted of both a criterion-referenced and norm-referenced component to allow for both criterion-referenced and norm-referenced scores. Some items contributed to CRT scores only, some items contributed to NRT scores only, and some items contributed to both CRT and NRT scores. No NRT items were used as anchor items for AIMS.

The AIMS CRT mathematics tests for Grade 3 consisted of 51 items developed by Arizona teachers and 15 Stanford 10 items that map to the Arizona content standards, for a total of 66 items. The AIMS CRT mathematics tests for Grade 5 consisted of 52 items developed by Arizona teachers and 15 Stanford 10 items that map to the Arizona content standards, for a total of 67 items. The AIMS CRT mathematics tests for Grades 4 and 6 through 8 consisted of 53 items developed by Arizona teachers and 15 Stanford 10 items that map to the Arizona content standards, for a total of 68 items. Ten field test items written to the Arizona standards were embedded with the operational items. Detailed test structure information can be found in Table 3.3.6.1. The raw score and scale score ranges are presented in Table 3.3.4.2. New performance standards were set for the tests in 2010. Scaling of AIMS CRT mathematics is discussed in Part 7 of this technical report.

The left hand side of Table 3.3.6.1 presents the break down of the number of items that contributed to the AIMS mathematics CRT and the AIMS mathematics NRT component for each grade. The number of Stanford 10 mathematics items that contributed to both components is also reported. The total number of test items on the test is the composite of the number of field test items, the number of CRT items, and the number of NRT items. The right hand side of Table 3.3.6.1 presents the number of anchor items used in the annual equating for each grade.

The AIMS NRT mathematics tests for Grades 3-8 consisted of 25 Stanford 10 mathematics items from Stanford 10 Form B. The AIMS NRT mathematics tests closely approximated the test blueprint and statistical criteria of Stanford 10. Scale scores are reported on the Stanford 10 mathematics NRT scale. Norms are reported using the 2007 Stanford 10 spring norms.

Items on the AIMS 3-8 reading, writing, and mathematics tests that reported to a criterion-referenced score were either developed by Arizona teachers or were Stanford 10 items that matched the Arizona content standards. No norm-referenced only reading, writing, or mathematics items reported to the AIMS 3-8 criterion-referenced scores.

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Table 3.3.6.1
Spring 2012 AIMS Test Structure Mathematics

Grade	MA FT	MA CRT only	MA NRT /CRT	MA NRT only	MA CRT TOTAL (CRT + NRT/CRT)	MA NRT TOTAL	TOTAL ITEMS ON TEST	Anchor (Common CRT: Spring 2011 - 2012)
3	10	51	15	10	66	25	86	15
4	10	53	15	10	68	25	88	17
5	10	52	15	10	67	25	87	16
6	10	53	15	10	68	25	88	17
7	10	53	15	10	68	25	88	17
8	10	53	15	10	68	25	88	17
HS	15	85	N/A	N/A	85	N/A	100	23

*High School mathematics had a total of 60 field test items; Grades 3-8 math each had 40.

3.3.7 Grades 4, 8, and High School Science (Criterion-referenced only)

The 2012 AIMS CRT science tests consisted of one operational form with 54 multiple-choice items on the Grade 4 test, 58 multiple-choice items on the Grade 8 test, and 65 multiple-choice items on the high school test. All multiple-choice items were developed by Arizona teachers. Ten field test items written to the Arizona standards were embedded with the operational items at each grade level. The scale scores for each test range from 200 to 800 and all items on each test reported to a criterion-referenced score. No norm-referenced items were included on any of the science tests. Table 3.3.10.1 displays the structure of the science tests.

Table 3.3.10.1
Spring 2012 AIMS Test Structure Science

Grade	SC FT	SC CRT only	SC NRT /CRT	SC NRT only	SC CRT TOTAL (CRT + NRT/CRT)	SC NRT TOTAL	TOTAL ITEMS ON TEST	Anchor (Common CRT: Spring 2011 - 2012)
4	10	54	N/A	N/A	54	N/A	64	20
8	10	58	N/A	N/A	58	N/A	68	24
HS	10	65	N/A	N/A	65	N/A	75	20

*Grades 4, 8, and HS science each had a total of 20 field test items.

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PART 4: TEST DEVELOPMENT

Part 4 of the technical report provides a summary of the test development activities that occurred during the 2011-2012 contract year. Information is provided relating to the following topics as they pertain to AIMS:

- a discussion of the AIMS test development and editing process;
- a description of the use of previously created AIMS item specifications;
- a description of the AIMS passage development and review procedures;
- a description of the AIMS item editing procedures;
- a description of content and bias/sensitivity review procedures for AIMS items;
- a description of the data analysis committee procedures;
- a description of the AIMS item selection committee meetings; and
- a description of the NRT alignment committee.

A comprehensive, multi-segment development process guides the development of assessment materials. The following section outlines this process in general terms. The remainder of Part 4 provides details of how these processes were implemented in Arizona. This section of the technical report addresses the following AERA/APA/NCME standards: 1.6, 3.1, 3.5, 3.6, 3.7, 3.9, 3.11, 3.16, 6.4, 6.15, 7.3, 7.4, 7.7, 13.3, and 13.5.

4.1 AIMS Test Development and Editing Process

4.1.1 Test Development Process

Test development for the 2012 test administration began with the customer kick-off meeting in Phoenix during August 2011. During this phase, the project deliverables were defined, such as test books, answer documents, test administration manuals, test coordinator manuals, test interpretation guides, and materials to support special accommodations, including Braille and large print books. The actual test form design was unchanged from the previous year. The ancillary materials were modified and all modifications were discussed and shared among all team members to ensure understanding.

4.1.2 Documents and Materials Development

Following definition of project deliverables, Pearson's entire test development team reviewed the blueprints, item specifications, and the ADE Style Guide to ensure that the 2012 assessment would meet all of the required, previously-developed criteria. Field test items were developed for reading, math, science, and writing to ensure a sufficient supply of items would be available to be placed on operational forms for the 2012 assessments.

4.1.3 Item Writing

The development of AIMS assessments for 2012 involved many professionals from Pearson and ADE collaborating in an effort to ensure that all newly developed items closely matched the Arizona Content Standards and the item specifications, while addressing the need to expand the Arizona Item

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Bank. The Arizona teachers who were selected to serve on item writing committees all possessed content and assessment expertise and the ability to be creative while adhering to the test blueprint, detailed item specifications, and content limits. There was a considerable amount of professional development provided to integrate new participants with more experienced item writers. Test items were written by Arizona teachers using a template that contained all requirements and supporting information such as strand, concept, performance objective, and content reference documentation. After the item writing workshops were concluded, test items were edited again by in-house Pearson content specialists, copy editors, art specialists, hand-scoring staff, and research scientists for content appropriateness and standards match. Items were then prepared for review by a committee of Arizona teachers at the Content and Bias Review meetings in July 2011. After passing these committees, the items were prepared for incorporation into the field test portion of the operational 2012 AIMS assessments.

4.1.4 Quality Reviews

ADE and Pearson personnel implemented a series of quality review checks at various stages of production to ensure all AIMS materials were error free.

ADE first reviewed each component at a relatively early stage of forms production. Items were compared to the way they were presented to the content/bias review committee to be sure no unauthorized changes had been introduced. Answer keys were checked. All changes were approved in writing by ADE.

A smooth AIMS test administration requires that all test materials, including test books, answer documents, and directions to students and test coordinators align with each other. Therefore, Pearson and ADE conducted a review of all materials as the second quality check. A side benefit of this review was the detection of possible revisions required on any unclear field test items.

Prior to creation of proofs (blueline stage), Pearson performed a Final Forms review. The purpose of the Final Forms review was to ensure that all publishable products met ADE's high quality standards and expectations.

After Pearson conducted their Final Forms review, all test forms were again submitted to ADE for review. All final forms and documents were reviewed and approved by ADE content specialists.

4.2 Pool of Items Used for Test Construction

4.2.1 Item Specifications

Prior to item writing, ADE and Pearson reviewed and revised existing item specifications for math, reading, writing, and science. The item specifications for writing were developed by Pearson and ADE in May 2009. The item specifications provide a definition of what is tested by each Performance Objective (PO) and, where needed, provide clarification of the PO statements, the content limits, and the stimulus and response attribute descriptions. Taken together, these help to inform instruction by explaining in detail what each PO means at each grade level and by describing how each PO is to be tested.

4.2.2 Reading Passage Content and Bias/Sensitivity Review

The passages considered for field testing in spring 2012 were passages that had been commissioned during March 2011. They reflected the kinds of reading required by the Arizona Reading Standards.

When considering passages and items for use in the Spring 2012 assessments, the committee critiqued them to be sure that:

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- all were well-written;
- all were rich in content and subject matter;
- all were age and grade appropriate;
- all avoided stereotyping and controversial, confusing, or emotionally-charged topics;
- together they reflected a range of multi-cultural content;
- some reflected the diversity of Arizona and the Southwest region; and
- all were written in such a way that no group would have an advantage or disadvantage.

In all, 25 passages and their accompanying items were prepared for a Reading Passage Content and Bias/Sensitivity Review meeting held in March 2011. Those 25 passages were prepared for review in passage review books. Each review book contained the passages for a specific grade. Each passage was on a template that included the word count and genre. The template also included space for reviewers to indicate their acceptance or rejection of the passage based on two back-to-back reviews: one for content and one for sensitivity issues. During a general session, all reviewers were provided the resourse materials that contained the review criteria for each type of review.

Content criteria included:

- Prior Knowledge/Audience/Appropriateness – Subject matter should be grade appropriate and not require specialized knowledge or background on the part of the reader.
- Interest – The material should engage the student. Students should find the topic interesting.
- Coherence/Cohesiveness – The passage should provide clear links between sentences and paragraphs. Antecedent reference should be clear and unambiguous.
- Writing Style/Passage Structure – The writing style should be consistent throughout the passage. Ideas should be presented in logical order.
- Unity/Purpose – Ideas should flow in a unified direction. The passage should have a clear purpose.
- Conceptual Density – Passage should place reasonable conceptual demands on the reader. New, unusual, or difficult terms should be explained using vocabulary familiar to the reader.
- Explication – Nonfiction passages should provide a balance between information that is stated directly and information that requires the reader to make inferences.
- Representation/Accuracy – Passages must represent their genre and contain factual information. Facts should be documented from reliable sources.
- Organizational Aids – Organizational aids, such as headings, diagrams, or introductions should be included where applicable.

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- Story Structure – Passages should contain sufficient structure to support a variety of questions.

Sensitivity criteria included:

- Passages should be free of specific references to or descriptions of events of extreme sadness or adversity, acts of physical or psychological violence, alcohol or drug abuse, vulgar language, or sex.
- Religious, political, social, or psychological issues should be presented so that more than one point of view is expressed, factual accuracy is maintained, controversial contemporary issues are avoided, and stereotypical descriptions of beliefs or customs are avoided.
- Offensive, disturbing, and inappropriate language or content is not used.
- There should be no evidence of stereotyping based on gender, race, ethnicity, religion, socioeconomic status, age, regional or geographic area, disability, or occupation.
- Passages should be free of differential familiarity for any group based on language, socioeconomic status, regional or geographic area, or prior knowledge or experiences unrelated to the subject matter being tested.

Reviewers who represented all grade levels and Arizona's rich ethnic and cultural diversity read each passage, discussed its content, and either accepted passages as they were or suggested revisions which were incorporated during the review sessions. Table 4.2.2.1 shows the number of passages brought to passage review and the number accepted. All 25 passages taken to Reading Passage Review were accepted for use. The 25 newly accepted passages were considered for item writing.

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Table 4.2.2.1
Results of Reading Passage Review in AZ for 2011

Grade	Passage Genre	Total Passages Reviewed	Total Passages Accepted
3	All	5	5
	Informational	2	2
	Functional	2	2
	Literary	1	1
4	All	2	2
	Informational	1	1
	Functional	0	0
	Literary	1	1
5	All	3	3
	Informational	1	1
	Functional	1	1
	Literary	1	1
6	All	4	4
	Informational	1	1
	Functional	2	2
	Literary	1	1
7	All	3	3
	Informational	1	1
	Functional	2	2
	Literary	0	0
8	All	4	4
	Informational	2	2
	Functional	1	1
	Literary	1	1
HS	All	4	4
	Informational	1	1
	Functional	1	1
	Literary	2	2
Total	All	25	25

4.2.3 Science Scenario Content and Bias/Sensitivity Review

There was no science scenario content and bias/sensitivity review in 2011.

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4.2.4 Item Content and Bias Review

Content and Bias Reviews for newly written reading, math, science, and writing items were conducted by Arizona educators and facilitated by contractor staff in July 2011.

The purposes of the Content Review were to verify the accuracy, difficulty range, depth of knowledge, and grade-appropriateness of potential test items and to verify their alignment to the intended Performance Objective (PO). The purposes of the Bias Review were to verify the items were free of stereotypes or other sources of bias and to confirm that they reflected community standards. Content and Bias Reviews were conducted separately for each item; however, each item earned just one combined rating: *Accept as Is*, *Accept with Revisions*, or *Reject*. Participants were selected on the basis of their ability to represent their grade level and to assure ethnic, racial, and gender representation. At the conclusion of the reviews, participants selected the passages and items that would be field tested in spring 2012.

During general sessions, participants received training in what to check during their Content Review, which included ensuring that the content of each item:

- was targeted to assess only one PO (unless specifications indicate otherwise);
- dealt with material that was important in testing the targeted PO;
- used grade-appropriate content;
- used appropriate thinking skills (application, analysis, conclusions, extending);
- was presented at a reading level suitable for the grade level being tested;
- was accurate and documented against reliable, up-to-date sources;
- had a stem that facilitated answering the question or completing the statement without looking at the answer choices;
- had a stem that did not present clues to the correct answer choice;
- had answer choices that were plausible and attractive to the student who had not mastered the objective or skill;
- was conceptually, grammatically, and syntactically consistent—between the stem and answer choices, and among the answer choices;
- had mutually exclusive distractors; and
- had one and only one correct answer choice.

During general sessions, participants received training in what to check during their Bias Review, which included ensuring that each item:

- was free of offensive, disturbing, or inappropriate language or content;
- was free of stereotyping based on gender, race, ethnicity, religion, socioeconomic status, age, regional or geographic area, disability, and occupation;
- demonstrated sensitivity to historical representation of groups; and
- was free of differential familiarity for any group based on language, socioeconomic status, regional or geographic area, and prior knowledge or experiences unrelated to the subject matter being tested.

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Participants were also asked to ensure that the content of each item was free of explicit references to or descriptions of events involving extreme sadness or adversity, acts of physical or psychological violence, alcohol or drug abuse, vulgar language, or sex.

Throughout the Bias Review, participants were asked to ensure that more than one point of view was expressed when any religious, political, social, or philosophical issues were addressed; beliefs or biases did not interfere with factual accuracy; contemporary issues that had already been proven to be controversial were absent; and stereotypic descriptions of beliefs or customs were absent.

During the reviews, participants were frequently encouraged to discuss each item and to make revisions that would bring the item into compliance with the above conditions. As they worked, participants were asked to consider the items two separate ways – once for content and once for bias. Considering the results of both reviews, participants were asked to place the items into the following categories: *Accept as Is*, *Accept with Revisions*, or *Reject*.

Overall, the acceptance rates were quite high. Across all grade levels, 91.32% of the items reviewed were accepted either as is or with revisions. Table 4.2.4.1 shows the number and portion of items classified into each category during Content and Bias Reviews by grade level and content area.

Any item that was rejected either for content or for bias issues was removed from consideration for field testing. In order to ultimately contribute to an item bank of items that measure and support the curriculum and state content standards, selection of the field test items was guided by the test blueprints. Field test item selection was performed by Content and Bias Review participants. Selections were subject to approval by ADE staff. Table 4.2.4.2 shows the number of field test items that were selected for inclusion in field test books.

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Table 4.2.4.1
Content and Bias Review Results

Content Area	Grade	Items Reviewed	Accepted		Rejected	
Reading	3	91	83	91.21%	8	8.79%
	4	96	87	90.63%	9	9.38%
	5	98	93	94.90%	5	5.10%
	6	85	80	94.12%	5	5.88%
	7	87	77	88.51%	10	11.49%
	8	78	69	88.46%	9	11.54%
	HS	108	103	95.37%	5	4.63%
Reading Total		643	592	92.07%	51	7.93%
Math	3	59	57	96.61%	2	3.39%
	4	60	57	95.00%	3	5.00%
	5	62	62	100.00%	0	0.00%
	6	50	50	100.00%	0	0.00%
	7	60	58	96.67%	2	3.33%
	8	57	57	100.00%	0	0.00%
	HS	73	65	89.04%	8	10.96%
Math Total		421	406	96.44%	15	3.56%
Science	4	59	43	72.88%	16	27.12%
	8	53	42	79.25%	11	20.75%
	HS	48	45	93.75%	3	6.25%
Science Total		160	130	81.25%	30	18.75%
Writing	5	30	27	90.00%	3	10.00%
	6	30	26	86.67%	4	13.33%
	7	42	35	83.33%	7	16.67%
	HS	45	36	80.00%	9	20.00%
Writing Total		147	124	84.35%	23	15.65%
Grand Total		1371	1252	91.32%	119	8.68%

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Table 4.2.4.2
Number of Field Test Items Selected

Content Area	Number of Grades	Number of Forms	Number of Items Selected
Reading	3 (Gr 3, 4, 8)	4	40
Reading	3 (Gr 5, 6, 7)	8	40
Reading	1 (HS)	4	40
Math	6 (Gr 3 through 8)	4	40
Math	1 (HS)	4	60
Science	3 (Gr 4, 8, and HS)	4	40
Writing	3 (Gr 5 through 7)	8	20
Writing	1 (HS)	8	40

4.2.5 Data Analysis

AIMS CRT Data Analysis was conducted in July 2011. Primary responsibility for conducting this workshop rested with ADE. However, a team of 15 experienced test developers from Pearson facilitated the data analysis activities. The primary purpose of the Data Analysis meeting was to have Arizona educators examine the item data generated during the Spring 2011 field test, assign each item a status code to be included with the item information in the item bank, and determine each item's eligibility for possible selection as an operational item starting in spring 2012.

Participants were given instruction by ADE staff on how to interpret basic statistical concepts related to item data including *p*-values, Rasch values, infit/outfit, point biserial correlations, response distributions and ethnic and gender differential item functioning (DIF) flags, omit rates, and population counts.

Items that measured the content they were intended to measure and whose statistics were within acceptable limits were assigned Item Available (IA) status. These items were eligible for selection as operational items. Throughout the meeting, content was stressed as the deciding factor over statistics for items to attain IA status. Across all grades/content areas, approximately 96% of the items received IA status.

Items whose statistics indicated a fixable problem and that defined where the items could be improved were assigned Re-Field Test (RFT) status. These items would be revised during future item writing workshops and would be re-field tested in future assessments. Of all the items reviewed, a total of 4% were coded RFT.

Items whose statistics indicated they would not function fairly and reliably were rejected and assigned Do Not Use (DNU) status. These items were removed from consideration as operational items. Across the content and grade levels, about 5% of the items were assigned DNU status.

Table 4.2.5.1 shows the number and portion of items classified into each category during Data Analysis by grade level.

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Table 4.2.5.1
Items Given Special Codes

Content Area	Grade	Items Reviewed	Items Assigned IA * Status		Items Assigned RFT* Status		Items Assigned DNU* Status	
Reading	3	35	35	100%	0	0%	5	14%
	4	38	38	100%	0	0%	2	5%
	5	40	40	100%	0	0%	0	0%
	6	40	40	100%	0	0%	0	0%
	7	36	36	100%	0	0%	4	11%
	8	32	32	100%	0	0%	8	25%
	HS	38	38	100%	0	0%	2	5%
Reading Total		259	259	100%	0	0%	21	8%
Math	3	40	37	93%	3	8%	0	0%
	4	40	39	98%	1	3%	0	0%
	5	40	37	93%	3	8%	0	0%
	6	40	39	98%	1	3%	0	0%
	7	40	40	100%	0	0%	0	0%
	8	40	37	93%	3	8%	0	0%
	HS	60	60	100%	0	0%	0	0%
Math Total		300	289	96%	11	4%	0	0%
Science	4	20	19	95%	1	5%	0	0%
	8	19	17	89%	2	11%	1	5%
	HS	19	18	95%	1	5%	1	5%
Science Total		58	54	93%	4	7%	2	3%
Writing	5	17	17	100%	0	0%	3	18%
	6	19	18	95%	1	5%	1	5%
	7	16	13	81%	3	19%	4	25%
	HS	27	21	78%	6	22%	3	11%
Writing Total		79	69	87%	10	13%	11	14%
Grand Total		696	671	96%	25	4%	34	5%

Note:* Item Available (IA) - Re-field Test (RFT) - Do Not Use (DNU)

4.2.6 AIMS CRT Item Selection

AIMS CRT Item Selection was conducted in July 2011. A team of 15 experienced test developers from Pearson facilitated the item selection meeting. For reading and math, Arizona

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participants included teachers for each content area and grade level band (Grades 3-4, 5-6, 7-8, and HS. For Writing and Science, each grade had a dedicated group of Arizona teachers. The primary purpose of the Item Selection meeting was to have Arizona educators select items to place on test forms for the Spring 2012 operational test that would produce valid and reliable scores using the items from the 2011 field test administration that had been designated as IA as well as using items from previous test administrations. Two sets of criteria primarily guided the selection of AIMS items: content representation and statistical requirements. In addition, the committee members were encouraged to select items with high level DOKs in order to help prepare students for assessments based on the Common Core State Standards which will be implemented in Spring 2015.

All of the items in the item bank that were available and eligible for selection as operational items in spring 2012 were displayed in grade level and content area item pool tables. With minor exceptions, the pool consisted of items field tested in 2002 through 2011. The items field tested in spring 2011 were also available in the data analysis materials. The item pool tables for the math, writing, and science committees were arranged by Performance Objective. The item pool tables for the reading committees were arranged by passage. All tables could also be sorted according to any of the columns, making them extremely useful tools for searching for items with specific characteristics. These items formed the pool for item selection. Item images could be viewed electronically via the item bank. Each meeting room was equipped with a laptop with access to the item bank and a projection screen so that the entire group could view items at the same time.

Each entry on the table contained identification numbers, content alignment information (Strand, Concept, Performance Objective), the most recent test administration, and the most current statistical information about that item (*p*-value, Rasch values, point biserial, differential item functioning summary flags, Rasch model fit statistics, and the percent of students who omitted the item). Participants were given training to interpret these statistics and statistical guidelines for test selection. These guidelines included a target difficulty level for each test. Specifically, a target mean and range of selected item *p*-values, as well as a suggested distribution for the item p-values was provided for each grade/subject combination. Careful adherence to the specified distribution of *p*-values guaranteed students a reasonable opportunity to do well on a test that would be neither too easy nor too hard.

In addition to selecting items within specific *p*-values ranges, committee members were also asked to select items with item discriminations that indicate that getting the item correct is reasonably correlated with performance on the entire test (i.e., preferably item correlations greater than 0.3) and do not exhibit the potential for item bias (i.e., the items should not be flagged using various differential item functioning statistics).

Content considerations were addressed by the test blueprints. Careful adherence to the blueprints guaranteed the tests would validly measure the construct of math and reading as represented in the Arizona state content standards, maintain consistency, link to instruction, and allow for selection of items from different performance objectives within each concept. Substantial variance from the test blueprint could alter the test alignment and thus the validity of the scores being reported. Items were selected to represent the significant content categories specified in the test blueprint in the same proportion as the content categories represented in the test blueprint.

Prior to the Item Selection Committee meeting, ADE selected an anchor set of items upon which the operational forms would be constructed. The anchor set consisted of items that had been operational at least the previous year (during the Spring 2011 test administration). Regardless of content area or grade, each anchor set was carefully selected to meet statistical criteria and to

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proportionally represent the blueprint. Anchor sets were finalized by ADE prior to the item selection workshop.

To facilitate the selection process and to guarantee that the proper number and proportion of items would be selected, participants were provided with item pool tables and item replacement tables. Table 4.2.6.1 shows a sample of an item pool table and the available data considered by the Item Selection Committee in its selection of replacement items. An analysis of differential item functioning is performed for every administration. The latest values are included in the item pool tables for each grade/content area and provided to participants in the Item Selection Committee. Table 4.2.6.2 is a sample portion of the Item Replacement Table used by the participants to note their replacement requirements for Grade 3 mathematics and to capture proposed items to be used on the Spring 2012 assessment. This table shows the portion relevant to Strand 1 Concept 1 only. The entire table included all strands and concepts. This sample table shows the portion of columns relevant to spring 2011 and spring 2012. The information in the first column shows the blueprint requirements for Strand 1, Concept 1 – eleven of the 66 Operational items that should be covered by items from Strand 1, Concept 1 in the Grade 3 mathematics test. The next two columns show that two of those 11 items are covered by Stanford 10 NRT/CRT items, leaving nine slots to be filled with AZ items. Similar columns were provided for each element of the blueprint, guaranteeing exact adherence to the blueprint.

The set of columns labeled Spring 2011 Operational Items include all of the AZ items covering Strand 1 Concept 1 that were in the Spring 2011 test. The set of columns labeled Spring 2012 Operational Items show the items that were retained from the Spring 2011 or prior administrations (highlighted in blue). These retained items were designated as anchor items. During item selection for spring 2012, the participants' tasks were to retain anchor items, if possible, and select items to fill in any gaps in blueprint coverage. As the participants considered each option based on content and difficulty, they could refer to the Item Pool Table to determine if the statistical considerations were being met and to the item bank to see the actual items.

As selections were made, they were recorded on item replacement tables. These tables were loaded onto computers and projected for group discussion. These tables provided a running record of the selections and further helped to guarantee blueprint coverage. Table 4.2.6.3 shows a sample of the *p*-value target distribution table and graph used by the committees.

These tables were completed for all selections and were subject to approval by both ADE and Pearson's Research department.

Table 4.2.6.4 shows the number of AIMS reading, writing, mathematics, and science items that were selected for each grade. All selections were approved by Pearson research staff and ADE staff.

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Table 4.2.6.1
Sample Grade 3 Mathematics Item Pool Table

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Row	AZID	Subject	Grade	Status	Strand	Concept	Perf. Obj.	DOK	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009	Year 2010	Year 2011	Recent Year	Item No.
1	41113415	Mathematics	3	New	1	1	4	3										FT	2011	54
2	41113426	Mathematics	3	New	1	1	6	2										FT	2011	42
3	41103962	Mathematics	3	New	1	2	6	2										FT	2011	22
4	41113460	Mathematics	3	New	1	2	6	2										FT	2011	10
5	41113437	Mathematics	3	New	1	2	7	1										FT	2011	74
6	41113502	Mathematics	3	New	1	2	7	2										FT	2011	65
7	41113412	Mathematics	3	New	2	3	2	2										FT	2011	65
8	41113450	Mathematics	3	New	2	4	2	2										FT	2011	82
9	41113494	Mathematics	3	New	2	4	2	2										FT	2011	11
10	41103001	Mathematics	3	New	2	4	3	2										FT	2011	22

Page 2

Row	N Count	Rasch	PVal	Flag PVal	PT Bis.	Flag PTBIS	Male vs Female Bias Flag	Non-Hispanic vs Hispanic Bias Flag	White vs Black Bias Flag	White vs Hispanic Bias Flag	White vs AmIn Bias Flag	White vs Asian Bias Flag	White vs Hawi/Paclslr Bias Flag	White vs Multiracial Bias Flag	Dist A	Dist B	Dist C	Dist D	Omit
1	20424	0.775	0.43		0.22	*	A	A	A		A	A	A	A	13.0	24.9	42.9	18.9	0.4
2	20203	0.728	0.44		0.38		A	A	A		A	A	A	A	44.1	28.6	15.4	11.4	0.5
3	20344	0.326	0.52		0.38		A	A	A		A	A	A	A	52.4	19.0	16.1	11.6	0.8
4	20424	0.072	0.57		0.32		A	A	A		A	A	A	A	24.4	11.9	56.7	6.0	1.0
5	20659	-3.063	0.95	*	0.37		A	A	A		A	A	A	A	94.5	1.9	2.5	0.9	0.2
6	20203	-1.153	0.78		0.40		A	A	A		A	A	A	A	12.6	78.1	5.8	3.1	0.4
7	20659	0.267	0.52		0.48		A	A	A		A	A	A	A	13.5	28.5	51.8	5.9	0.3
8	20344	0.147	0.56		0.35		A	A	A		A	A	A	A	29.9	9.7	55.9	4.3	0.2
9	20203	0.619	0.46		0.37		A	A	A		A	A	A	A	39.9	10.2	46.2	3.2	0.5
10	20424	-1.282	0.80		0.42		A	A	A		A	A	A	A	5.2	8.9	79.6	5.7	0.5

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Table 4.2.6.2
Sample Grade 3 Mathematics Item Replacement Table

AZ AIMS Grade 3 Spring 12 Operational Item Replacement Plan for MATH																				
			Spring 11 - New Operational Items									Spring 12 - New Operational Items								
			Selections									Selections								
# of Items Required per Blueprint	Strand	Concept	Actual # of AZ Items in Spring 11	# of NRT Items in Test	PO	AZID	PEID/CID	P-VALUE	Rasch	PtBis	DOK	Actual # of AZ Items in Spring 12	# of NRT Items in Test	PO	AZID	PEID/CID	P-VALUE	Rasch	PtBis	DOK
	1	1			1.1.2	3148275	00586520	0.84	-0.8453	0.27				1.1.4	41093163		0.682	-0.5532	0.435	2
	1	1			1.1.3	41093039		0.64	-0.4590	0.54				1.1.1	3148311	00586546	0.810	-0.3678	0.37	1
	1	1			1.1.1	3148311	00586546	0.81	-0.3678	0.37				1.1.1	3523037	01016586	0.470	1.479	0.33	2
	1	1			1.1.1	3523037	01016586	0.47	1.4790	0.33				1.1.6	41113426		0.441	0.7281	0.383	2
	1	1			1.1.4	41093163		0.64	-0.4440	0.47				1.1.5	41093190		0.376	1.0764	0.016	3
11	1	1	9	2	1.1.5	3513022		0.85	-2.0380	0.33		9	2	1.1.2	41093136		0.731	-0.8545	0.501	2
	1	1			1.1.5	41093190		0.34	0.9180	-0.06				1.1.2	41093195		0.76	-1.283743	0.49	2
	1	1			1.1.6	41093105		0.65	-0.6500	0.18				1.1.3	41093140		0.77	-1.353043	0.4	2
	1	1			1.1.2	41093136		0.7	-0.9370	0.44				1.1.6	3258469		0.7573	-1.415743	0.1972	1
	1	1			1.1.5	Dual	2109734	0.89	-2.268	0.234				1.1.5	Dual	2109734	0.890	-2.268	0.234	1
	1	1			1.1.1	Dual	2109731	0.85	-1.7870	0.476				1.1.1	Dual	2109729	0.600	-0.094	0.396	1

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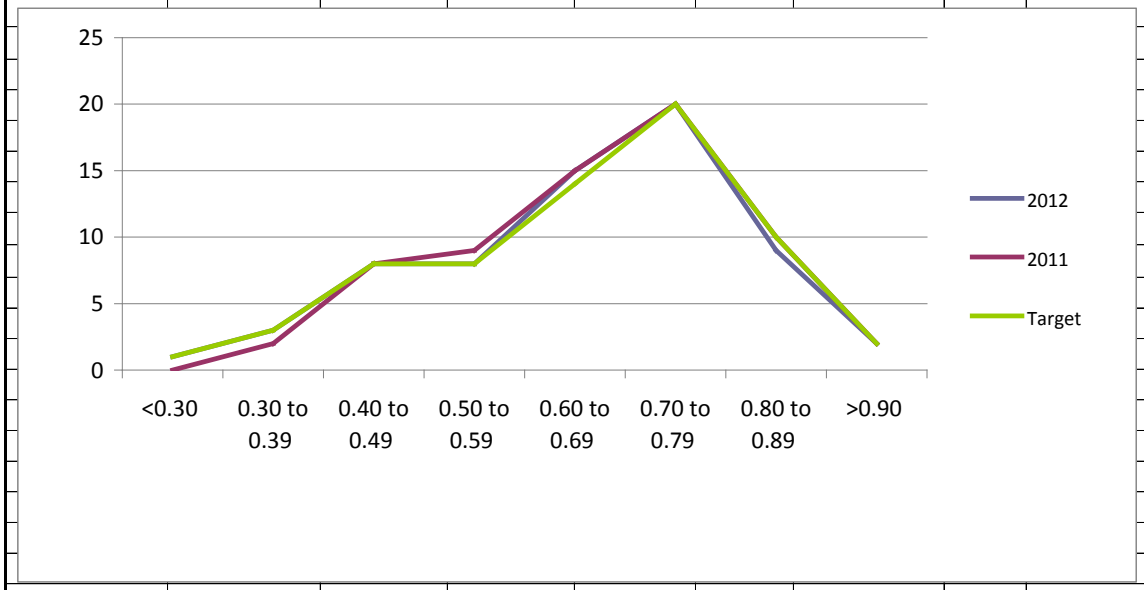
Table 4.2.6.3
Sample P-Value Target Table and Graph

	Grade 3	target mean = 0.67								
		<0.30	0.30 to 0.39	0.40 to 0.49	0.50 to 0.59	0.60 to 0.69	0.70 to 0.79	0.80 to 0.89	>0.90	**Total Number of Items**
Pct of items for target		1%	4%	12%	13%	21%	31%	15%	3%	
	Target Totals	**1**	**3**	**8**	**8**	**14**	**20**	**10**	**2**	**66**
Actual - Anchors		0	0	3	2	6	3	1	0	**15**
Actual - new selections		1	3	4	4	6	15	4	0	**37**
NRT/Dual Purpose		0	0	1	2	3	2	4	2	**14**
	TOTAL 2012	**1**	**3**	**8**	**8**	**15**	**20**	**9**	**2**	66
	Actual 2011	0	2	8	9	15	20	10	2	**66**



DOK Level	N
1	16
2	38
3	12
4	0
Total	66

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Table 4.2.6.4
Number of Reading, Writing, Math, and Science Items Selected by Committee

Content Area	Grade	CRT Items Only	Anchor Items		Total Selected	
Reading	3	39	12	30.77%	27	69.23%
	4	39	12	30.77%	27	69.23%
	5	39	12	30.77%	27	69.23%
	6	39	12	30.77%	27	69.23%
	7	40	12	30.00%	28	70.00%
	8	41	12	29.27%	29	70.73%
	HS	54	13	24.07%	41	75.93%
Reading Total		291	85	29.21%	206	70.79%
Math	3	52	15	28.85%	37	71.15%
	4	53	17	32.08%	36	67.92%
	5	52	16	30.77%	36	69.23%
	6	53	17	32.08%	36	67.92%
	7	53	17	32.08%	36	67.92%
	8	54	17	31.48%	37	68.52%
	HS	85	23	27.06%	62	72.94%
Math Total		402	122	30.35%	280	69.65%
Science	4	54	20	37.04%	34	62.96%
	8	58	24	41.38%	34	58.62%
	HS	65	20	30.77%	45	69.23%
Science Total		177	64	36.16%	113	63.84%
Writing	5	18	9	50.00%	9	50.00%
	6	18	9	50.00%	9	50.00%
	7	18	9	50.00%	9	50.00%
	HS	27	9	33.33%	18	66.67%
Writing Total		81	36	44.44%	45	55.56%
Grand Total		951	307	32.28%	644	67.72%

4.2.7 AIMS NRT Alignment Committee

In order to effectively and validly incorporate Stanford 10 items as a component of AIMS, the ADE formed alignment committees consisting of Arizona educators to compare each reading,

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writing, and mathematics Stanford 10 item to the Arizona Content Standards in Grades 3 through 8. These committees established a pool of Stanford 10 items that could be used on AIMS as dual purpose items to address specific POs. The committee met in June 2009 and reviewed all the items on the Stanford 10, Form B for alignment. Tables 4.2.7.1 and 4.2.7.2 show the number of items reviewed and the number that were deemed to match the Arizona content strands and concepts for Reading and Mathematics.

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Table 4.2.7.1 Stanford 10 Item Alignment for Reading

Grade Level	Numberof Passages	Number of Items Reviewed	Number of Items for Strand - Concept						Total Items Aligned
			1-4	1-6	2-1	3-1	3-2	3-3	
3	9	54	1	11	9	6	11		38
4	10	54	4	10	7	13	9	2	45
5	8	54		14	8	9	10		41
6	8	54	2	9	6	16	8		41
7	9	54	4	8	7	27	3		49
8	8	54	4	6	4	24		3	41

Table 4.2.7.2 Stanford 10 Item Alignment for Mathematics

Grade Level	Number of Items Reviewed	Number of Items for Strands - Concepts																Total Items Aligned
		1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	3-4	4-1	4-2	4-3	4-4	5-1	5-2	
3	46	5	7	2	5			1	1	1		1	1		1		1	26
4	48	3	1	4	4			2		1		1		1	2		12	31
5	48	6	3	2	1	2	1				1	2			1	1	5	25
6	48	4	2	3	1	2								1	3		8	24
7	48	4	4	3	2			3		2		1			1		4	24
8	48	1	2	4	1		1	1	1	4	2	2					6	25

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4.2.8 AIMS NRT Item Selection

Based on the results of the AIMS NRT Alignment Committee meetings, Pearson content specialists and psychometricians selected Stanford 10 items to serve as dual purpose or NRT only items on the reading, writing, and mathematics tests. The set of NRT items selected for use on the AIMS assessments is refreshed every two years. This is done to avoid over exposure of the NRT items which could lead to skewed statistics for those items. These items were selected prior to the item selection committee meetings in which Arizona educators selected the new AIMS items for the tests. The Stanford 10 items embedded in the AIMS 3-8 assessment were selected to match the test blueprint and statistical criteria of Stanford 10. Approximately twenty-five Stanford 10 items were selected for each grade and subject, and approximately 15 items served as dual purpose and the remainder served as NRT only items. Nine of the twenty items from the language Stanford 10 were chosen as dual purpose items for Grades 5 through 7 writing test. The differences in blueprint representation between the Stanford 10 component embedded in the AIMS 3-8 assessment and the Stanford 10 Form B Abbreviated and Full forms are summarized in the tables below. Stanford 10 is available in two formats, a full form and an abbreviated form. The tables show the number and percent of items in each Stanford 10 cluster on the NRT component of the Arizona tests (NRT), the Stanford 10 Abbreviated Form (B ABr), and the full form B (FormB). The rightmost three columns show the average Rasch difficulty of the NRT item sets on the AIMS tests and the Stanford 10 forms.

Table 4.2.8.1
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 3 Reading

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	**N**	**N**	**N**	**Percent**	**Percent**	**Percent**	**Mean**	**Mean**	**Mean**
Critical Analysis	5	7	12	20.0	23.3	22.2	-0.69	0.01	-0.18
Initial Understanding	7	7	12	28.0	23.3	22.2	-0.20	-0.34	-0.48
Interpretation	9	11	20	36.0	36.7	37.0	0.18	0.46	0.14
Strategies	4	5	10	16.0	16.7	18.5	-0.45	0.26	-0.14
All	25	30	54	100.0	100.0	100.0	-0.20	0.13	-0.12

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Table 4.2.8.2
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 4 Reading

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Critical Analysis	6	7	12	24.0	23.3	22.2	0.02	0.37	0.16
Initial Understanding	6	7	12	24.0	23.3	22.2	0.38	0.54	0.40
Interpretation	10	11	20	40.0	36.7	37.0	0.20	0.54	0.47
Strategies	3	5	10	12.0	16.7	18.5	0.55	0.21	0.52
All	25	30	54	100.0	100.0	100.0	0.24	0.45	0.39

Table 4.2.8.3
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 5 Reading

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Critical Analysis	6	7	12	24.0	23.3	22.2	1.10	1.12	1.07
Initial Understanding	6	7	12	24.0	23.3	22.2	0.35	0.25	0.55
Interpretation	9	11	20	36.0	36.7	37.0	0.48	0.39	0.32
Strategies	4	5	10	16.0	16.7	18.5	1.15	1.41	0.98
All	25	30	54	100.0	100.0	100.0	0.71	0.70	0.66

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Table 4.2.8.4
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster - Grade 6 Reading

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Critical Analysis	5	7	12	19.2	23.3	22.2	1.33	1.62	1.29
Initial Understanding	6	7	12	23.1	23.3	22.2	0.85	0.51	0.49
Interpretation	10	11	20	38.5	36.7	37.0	1.46	1.47	1.14
Strategies	5	5	10	19.2	16.7	18.5	0.36	0.88	0.90
All	26	30	54	100.0	100.0	100.0	1.08	1.18	0.98

Table 4.2.8.5
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster - Grade 7 Reading

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Critical Analysis	6	7	12	24.0	23.3	22.2	1.64	1.56	1.33
Initial Understanding	6	7	12	24.0	23.3	22.2	1.00	1.11	1.31
Interpretation	9	11	20	36.0	36.7	37.0	1.38	1.42	1.06
Strategies	4	5	10	16.0	16.7	18.5	0.67	1.22	1.14
All	25	30	54	100.0	100.0	100.0	1.24	1.35	1.19

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Table 4.2.8.6
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 8 Reading

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	**N**	**N**	**N**	**Percent**	**Percent**	**Percent**	**Mean**	**Mean**	**Mean**
Critical Analysis	6	9	14	24.0	30.0	25.9	1.09	1.27	1.40
Initial Understanding	5	5	10	20.0	16.7	18.5	1.42	1.11	1.14
Interpretation	9	11	20	36.0	36.7	37.0	1.73	1.51	1.69
Strategies	5	5	10	20.0	16.7	18.5	1.79	2.02	1.72
All	25	30	54	100.0	100.0	100.0	1.53	1.46	1.52

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Table 4.2.8.7
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 3 Language

	Test			Test			Test		
							NRT	B Abr	FormB
	NRT	B Abr	FormB	NRT	B Abr	FormB	Rasch	Rasch	Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Capitalization	4	6	8	20.0	20.0	16.7	-0.56	-0.62	-0.61
Content and Organization	5	7	12	25.0	23.3	25.0	-0.02	-0.06	-0.02
Prewriting	2	4	5	10.0	13.3	10.4	-0.08	-0.08	-0.17
Punctuation	3	5	8	15.0	16.7	16.7	-0.45	-0.19	0.14
Sentence Structure	3	4	7	15.0	13.3	14.6	-0.82	-0.41	-0.46
Usage	3	4	8	15.0	13.3	16.7	-0.48	-0.07	-0.63
All	20	30	48	100.0	100.0	100.0	-0.39	-0.25	-0.27

Table 4.2.8.8
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 4 Language

	Test			Test			Test		
							NRT	B Abr	FormB
	NRT	B Abr	FormB	NRT	B Abr	FormB	Rasch	Rasch	Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Expression									
Content and Organization	5	8	11	50.0	53.3	45.8	-0.16	-0.18	-0.11
Prewriting	2	2	5	20.0	13.3	20.8	-0.08	0.23	0.03
Sentence Structure	3	5	8	30.0	33.3	33.3	0.23	0.21	0.15
All Expression	10	15	24	100.0	100.0	100.0	-0.03	0.01	0.01
Mechanics									
Capitalization	4	5	8	40.0	33.3	33.3	-0.36	-0.39	-0.33
Punctuation	3	5	8	30.0	33.3	33.3	0.50	0.37	0.39
Usage	3	5	8	30.0	33.3	33.3	-0.46	-0.09	-0.28
All Mechanics	10	15	24	100.0	100.0	100.0	-0.13	-0.04	-0.07

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Table 4.2.8.9
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 5 Language

	Test			Test			Test		
							NRT	B Abr	FormB
	NRT	B Abr	FormB	NRT	B Abr	FormB	Rasch	Rasch	Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Expression									
Content and Organization	4	7	10	40.0	46.7	41.7	0.59	0.68	0.59
Prewriting	2	4	5	20.0	26.7	20.8	0.16	0.28	0.34
Sentence Structure	4	4	9	40.0	26.7	37.5	0.40	0.66	0.47
All Expression	10	15	24	100.0	100.0	100.0	0.43	0.57	0.50
Mechanics									
Capitalization	3	5	8	30.0	33.3	33.3	0.46	0.07	0.06
Punctuation	3	5	8	30.0	33.3	33.3	0.84	0.82	0.83
Usage	4	5	8	40.0	33.3	33.3	-0.25	-0.42	-0.26
All Mechanics	10	15	24	100.0	100.0	100.0	0.29	0.15	0.21

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Table 4.2.8.10
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 6 Language

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	**N**	**N**	**N**	**Percent**	**Percent**	**Percent**	**Mean**	**Mean**	**Mean**
Expression									
Content and Organization	4	5	9	40.0	33.3	37.5	0.69	0.39	0.55
Prewriting	2	3	5	20.0	20.0	20.8	0.39	0.47	0.44
Sentence Structure	4	7	10	40.0	46.7	41.7	0.60	0.65	0.55
All Expression	10	15	24	100.0	100.0	100.0	0.59	0.53	0.52
Mechanics									
Capitalization	3	5	8	30.0	33.3	33.3	0.45	0.31	0.46
Punctuation	4	5	8	40.0	33.3	33.3	1.01	1.06	0.94
Usage	3	5	8	30.0	33.3	33.3	-0.25	0.21	-0.00
All Mechanics	10	15	24	100.0	100.0	100.0	0.47	0.53	0.47

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Table 4.2.8.11
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 7 Language

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	**N**	**N**	**N**	**Percent**	**Percent**	**Percent**	**Mean**	**Mean**	**Mean**
Expression									
Content and Organization	3	5	9	30.0	33.3	37.5	0.90	1.00	1.05
Prewriting	3	4	5	30.0	26.7	20.8	1.05	1.04	0.87
Sentence Structure	4	6	10	40.0	40.0	41.7	1.19	1.16	1.17
All Expression	10	15	24	100.0	100.0	100.0	1.06	1.07	1.06
Mechanics									
Capitalization	3	5	8	30.0	33.3	33.3	1.11	1.04	0.86
Punctuation	3	5	8	30.0	33.3	33.3	1.38	1.35	1.08
Usage	4	5	8	40.0	33.3	33.3	0.97	0.72	0.76
All Mechanics	10	15	24	100.0	100.0	100.0	1.13	1.04	0.90

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Table 4.2.8.12
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 8 Language

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Expression									
Content and Organization	4	5	9	40.0	33.3	37.5	1.27	1.26	1.35
Prewriting	3	5	5	30.0	33.3	20.8	0.83	0.78	0.78
Sentence Structure	3	5	10	30.0	33.3	41.7	1.19	1.54	1.22
All Expression	10	15	24	100.0	100.0	100.0	1.11	1.19	1.18
Mechanics									
Capitalization	3	5	8	30.0	33.3	33.3	0.84	1.08	0.99
Punctuation	3	5	8	30.0	33.3	33.3	1.29	1.46	1.42
Usage	4	5	8	40.0	33.3	33.3	0.63	0.62	0.92
All Mechanics	10	15	24	100.0	100.0	100.0	0.89	1.05	1.11

Table 4.2.8.13
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 3 Mathematics

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Data, Statistics, & Probability	3	4	6	12.0	13.3	13.0	-0.28	-0.35	-0.51
Geometry and Measurement	5	7	10	20.0	23.3	21.7	-0.91	-0.26	-0.42
Number Sense and Operations	14	16	25	56.0	53.3	54.3	-0.78	-0.86	-0.96
Patterns, Relationships, & Algebra	3	3	5	12.0	10.0	10.9	-1.14	-1.28	-1.15
All	25	30	46	100.0	100.0	100.0	-0.79	-0.69	-0.80

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Table 4.2.8.14
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 4 Mathematics

	Test			Test			Test		
							NRT	B Abr	FormB
	NRT	B Abr	FormB	NRT	B Abr	FormB	Rasch	Rasch	Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Data, Statistics, & Probability	4	5	8	16.0	16.7	16.7	-0.08	-0.09	-0.03
Geometry and Measurement	5	7	10	20.0	23.3	20.8	0.99	0.59	0.57
Number Sense and Operations	12	14	24	48.0	46.7	50.0	-0.39	-0.25	-0.36
Patterns, Relationships, & Algebra	4	4	6	16.0	13.3	12.5	-0.23	-0.10	0.02
All	25	30	48	100.0	100.0	100.0	-0.04	-0.01	-0.06

Table 4.2.8.15
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 5 Mathematics

	Test			Test			Test		
							NRT	B Abr	FormB
	NRT	B Abr	FormB	NRT	B Abr	FormB	Rasch	Rasch	Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Data, Statistics, & Probability	4	5	8	16.0	16.7	16.7	1.02	0.62	0.61
Geometry and Measurement	5	7	10	20.0	23.3	20.8	1.43	1.26	1.21
Number Sense and Operations	12	14	24	48.0	46.7	50.0	0.94	0.83	0.95
Patterns, Relationships, & Algebra	4	4	6	16.0	13.3	12.5	0.76	0.60	0.76
All	25	30	48	100.0	100.0	100.0	1.02	0.86	0.93

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Table 4.2.8.16
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 6 Mathematics

	Test			Test			Test		
							NRT	B Abr	FormB
	NRT	B Abr	FormB	NRT	B Abr	FormB	Rasch	Rasch	Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Data, Statistics, & Probability	4	5	8	16.0	16.7	16.7	2.07	1.71	1.82
Geometry and Measurement	6	7	11	24.0	23.3	22.9	1.47	1.20	1.25
Number Sense and Operations	12	14	22	48.0	46.7	45.8	1.36	1.29	1.32
Patterns, Relationships, & Algebra	3	4	7	12.0	13.3	14.6	1.54	1.57	1.69
All	25	30	48	100.0	100.0	100.0	1.52	1.38	1.44

Table 4.2.8.17
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 7 Mathematics

	Test			Test			Test		
							NRT	B Abr	FormB
	NRT	B Abr	FormB	NRT	B Abr	FormB	Rasch	Rasch	Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Data, Statistics, & Probability	4	5	9	16.0	16.7	18.8	2.09	2.13	2.14
Geometry and Measurement	6	8	12	24.0	26.7	25.0	1.82	1.97	1.86
Number Sense and Operations	10	11	18	40.0	36.7	37.5	1.83	1.68	1.57
Patterns, Relationships, & Algebra	5	6	9	20.0	20.0	18.8	1.27	1.63	1.70
All	25	30	48	100.0	100.0	100.0	1.76	1.82	1.78

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Table 4.2.8.18
Number and percent of Stanford 10 items on the AIMS, Stanford 10 Form B, and Stanford 10 Form B Abbreviated by Stanford 10 Cluster – Grade 8 Mathematics

	Test			Test			Test		
	NRT	B Abr	FormB	NRT	B Abr	FormB	NRT Rasch	B Abr Rasch	FormB Rasch
Cluster	N	N	N	Percent	Percent	Percent	Mean	Mean	Mean
Data, Statistics, & Probability	4	5	9	16.0	16.7	18.8	2.51	2.34	2.48
Geometry and Measurement	7	8	12	28.0	26.7	25.0	2.82	2.73	2.76
Number Sense and Operations	9	11	18	36.0	36.7	37.5	2.62	2.44	2.28
Patterns, Relationships, & Algebra	5	6	9	20.0	20.0	18.8	2.28	2.02	2.17
All	25	30	48	100.0	100.0	100.0	2.59	2.42	2.42

4.3 Customer Approvals

Approvals from ADE staff were obtained during several phases of development: during selection of the CRT items, after forms were created, at the completion of the QA reviews, and when pre-press test books were available. Each is described below.

4.3.1 Item Selection Approval

Since the item selection was conducted in Arizona, item selection approvals were obtained on site at the end of each day. ADE staff members were given the item replacement tables. Approval was verbal. The item selection tables were then reviewed by Pearson's research scientist. Psychometric evaluation of the test selection was the main focus of this review. Recommended changes were discussed with and approved by ADE.

4.3.2 Test Book Approvals

At the test book phase of development, items had been arranged into test book format. That is, they were no longer treated as individual items, but appeared in page layouts as they would appear in the final, printed test books. By this point, all content issues were resolved. The focus of this approval was on format and presentation issues, rather than on content issues. Formal approval was given. Desired changes were communicated via PDF markup and the Development Tracking Form, which included a description of the change, a justification, and space for the customer to grant or deny approval. Formal sign-off of test books by ADE was achieved via the use of signed electronic Final Proof Approval Forms.

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4.3.3 FTP Site

A secure FTP site had been established by ADE for transfer of electronic documents (annotated test books, test book reviews, etc.) that need to be reviewed by ADE staff. After careful review by ADE staff, corrections and edits were transmitted to Pearson for inclusion/revision of the test documents.

4.3.4 Final Forms Review (Pearson)

The Final Forms review provided an opportunity for Pearson staff members who had not previously seen the test materials to review them. This review helped assure that test books, answer documents, and test administration directions all work in concert. In addition, this review helped in detecting errors, inconsistencies, cosmetic errors, and key verifications. Items with problems identified during the Final Forms review were annotated. Pearson staff resolved all comments and made necessary corrections prior to releasing the materials.

4.3.5 ADE Quality Review

After Pearson reviewed and edited test documents, ADE staff conducted a final review of forms to determine if all edits had been accomplished properly.

4.3.6 Final Sign-off

A final, formal approval (blueline stage) was given as test books became available for printing. A copy of the test book was sent for ADE to review and to provide formal approval.

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PART 5: TEST ADMINISTRATION

Part 5 of the technical report describes administration procedures, including accommodations, security, and written procedures available to test administrators and school personnel for all AIMS and Stanford 10 testing for the 2011-2012 school year. The following AERA/APA/NCME standards are addressed: 1.13, 3.3, 3.19, 3.20, 3.21, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 6.11, 6.15, 9.1, 10.1, and 10.2.

5.1 Accommodations

The same accommodations were made available for all of the Fall 2011 and Spring 2012 AIMS tests, including AIMS HS, AIMS 3-8, AIMS HS Writing field test, and AIMS 5, 6, 7 Writing field test. In addition, in Grades 2 and 9, students were assessed in reading, language, and mathematics using Stanford 10, a norm-referenced assessment published by Pearson. Stanford 10 was normed in 2007. The norming group included students with disabilities who received accommodations and students identified as English Learners. Therefore, all of the AIMS HS, AIMS 3-8, AIMS HS Writing field test, AIMS 5, 6, 7 Writing field test, and Stanford 10 assessments allow the same accommodations and include students who have received accommodations.

Arizona statutes (A.R.S. §15-741 and §15-755), the Individuals with Disabilities Education Act (IDEA) (300.160), and the Elementary and Secondary Education Act (ESEA) (§1111) mandate that all students who are educated with public funds must participate in state assessment, including all students with disabilities and all students identified as English Language Learners.

For the purposes of assessment, a Special Education student is eligible to receive services under the Individuals with Disabilities Education Act and has an Individualized Education Program (IEP); and a 504 student is eligible under Section 504 of the Rehabilitation Act of 1973 and has a 504 Accommodation Plan.

Students with disabilities who have an IEP, or who have a 504 plan, may be considered for both universal test administration conditions and standard accommodations (described in section 5.1.1). Also, students identified as English Language Learner (ELL) and students who have been identified as Fluent English Proficient (FEP) for no more than two years may be considered for universal test administration conditions and standard accommodations.

Students with significant cognitive disabilities and whose current Individualized Education Program (IEP) designates them as eligible for an alternate assessment, AIMS A, are excluded from AIMS or Stanford 10 testing.

The Arizona English Language Learner Assessment (AZELLA), a language proficiency assessment, is given to determine a student's proficiency in English and respective instructional placement. An English Language Learner (ELL) is a student whose native language is other than English, whose scores below the proficient level on the AZELLA, and is placed into a language program. Fluent English Proficient (FEP) is a term that is used to refer to a former ELL student who has scored at the proficient level of the AZELLA.

For detailed information on testing accommodations, please see *Testing Accommodations: Guidelines for 2011-2012* on the Arizona Department of Education website at the following location: http://www.azed.gov/standards-development-assessment/files/2012/07/testing-accommodations-2012-13.pdf

. Since the accommodations guide and other time sensitive materials are updated yearly, the 2011-2012 guide is no longer posted on the ADE website. The 2011-2012 guide may be obtained by contacting ADE directly.

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5.1.1 Overview of Accommodations

Accommodations are specific practices and procedures that provide students with equitable access during instruction and assessment. Accommodations are made in order to provide a student equal access to learning and equal opportunity to demonstrate what is known. They are intended to reduce or even eliminate the effects of a student's disability.

Accommodations can be changes in the presentation, response, setting, and timing/scheduling of educational activities. There should be a direct connection between a student's disability, special education need or language need and the accommodation(s) provided to the student during educational activities, including assessment.

Students should receive the same accommodations for classroom instruction, classroom assessments, district assessment, and state assessments. No accommodations should be provided during assessments that are not also provided during instruction. However, not all accommodations appropriate for instruction are appropriate for use during a standardized state assessment. **The accommodations available to students while testing on Stanford 10, AIMS 3-8, AIMS HS, AIMS HS Writing field test or AIMS 5, 6, and 7 Writing field tests are limited to those listed in later sections of this document.**

Accommodations may not provide verbal or other clues or suggestions that hint at or give away the correct response to the student. Therefore, it is not permissible to simplify, paraphrase, explain, or eliminate any test item, prompt, or multiple-choice option. Additionally, accommodations provided for one student may not impede or impact other students in the testing room. It is the responsibility of the testing administrator to see that each student, who qualifies for testing accommodations, receives appropriate accommodations while also ensuring that other students, who do not receive accommodations, are not affected.

5.1.2 Descriptions of Universal and Standard Accommodations

Arizona offers two levels of accommodations to students participating in state assessments: universal test administration conditions and standard accommodations.

Universal Test Administration Conditions are specific testing situations and conditions that may be offered to **any** student in order to provide him/her a comfortable and distraction-free testing environment. Universal test administration conditions may be included in a student's IEP or 504 plan as a required "accommodation"; however, for Arizona state testing purposes, these are not considered testing accommodations and are not limited to only students with IEPs or 504 plans.

Standard Accommodations are provisions made in how a student accesses and demonstrates learning that do not substantially change the instructional level, the content, or the performance criteria. For students with disabilities, standard accommodations are intended to reduce or even eliminate the effects of a student's disability. For English Language Learners and FEP Year 1 and Year 2 students, standard accommodations are intended to allow students the opportunity to demonstrate their content knowledge even though the student is not functioning at grade level in English.

During the assessment, all accommodations for assessment identified in a student's IEP or 504 plan must be made available. However, students may choose not to use the accommodation(s).

5.1.3 Determining if a Student Needs a Testing Accommodation

When students need accommodations in how they learn or demonstrate learning, they are likely to need accommodations in how they are assessed. Conversely, if students do not need accommodations in how they learn or demonstrate learning, they will not need accommodations in

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how they are assessed. Therefore, no accommodation can be put in place for an assessment that is not already used regularly in the classroom.

To determine if a student will need testing accommodations to participate in state assessments, the following questions were asked:

- Does the student use accommodations during daily instruction?
- If the student uses accommodations during daily instruction, does the student need accommodations in order to participate in the state assessment?
- If so, which testing accommodations are necessary and appropriate for the student?

It is important to annually re-consider the types of accommodations used for students, particularly as they gain more skills. The following is a list of the specific testing accommodations available to students while participating in a state assessment.

Universal Test Administration Conditions

- Testing in a small group, testing one-on-one, testing in a separate location or in a study carrel
- Being seated in a specific location within the testing room or being seated at special furniture
- Having the test administered by a familiar test administrator
- Using a special pencil or pencil grip
- Using devices that allow the student to see the test: glasses, contacts, magnification, special lighting, and color overlays
- Using devices that allow the student to hear the test directions: hearing aids and amplification
- Wearing noise buffers after the scripted directions have been read
- Having the scripted directions included in the *Test Administration Directions* repeated (at student request) and having questions about the scripted directions or the directions that students read on their own answered.

Standard Accommodations

Injury

For students who were eligible to receive a standard accommodation due to an injury.

1 = Have answers transferred from a test book into an answer document
2 = Record or dictate multiple-choice responses to a scribe (not available for writing)
3 = Use assistive technology with spell check, grammar check, and predict ahead functions turned off (not available for reading, mathematics, or science)

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ELL/FEP

For students who were eligible to receive a standard accommodation due to their classification as an English Language Learner student or as a Fluent English Proficient (year 1 or year 2) student.

4 = More breaks and/or several shorter sessions
5 = Simplified language for the scripted directions in English
6 = Read aloud in English the writing prompt, mathematics test items, or science test items, as needed upon student request
7 = Provide a word-for-word published, paper translation dictionary
8 = Exact oral translation of the scripted directions or the directions that students read on their own as needed upon student request

IEP/504

For students who were eligible to receive a standard accommodation due to their IEP or 504 plan.

9 = Place marker used
10 = More breaks and/or several shorter sessions
11 = Test at a different time of day
12 = Simplify language for the scripted directions in English
13 = Read aloud or sign the directions that students read on their own
14 = Read aloud in English or sign the writing prompt, mathematics test items, or science test items
15 = Large print edition of test
16 = For a student who is blind, use of an abacus for mathematics test items
17 = For a student who is blind, use of an electronic dictionary and thesaurus with grammar check, spell check, encyclopedia, and internet access turned off (not available for reading, mathematics, or science)
18 = For student who is blind, Braille writers
19 = Have answers transferred from the test book into an answer document
20 = Record or dictate multiple-choice responses to a scribe (not available for writing)
21 = Use assistive technology with spell check, grammar check, and predict ahead functions turned off (not available for reading, mathematics, or science)
22 = For the mathematics sections, use of a personal whiteboard which can be seen by only the student and is erased after every problem (not available for reading, writing, or science)
Braille = use of a Braille edition of the test

5.1.4 Reporting Results of Assessments Taken with Accommodations

The use of standard accommodations results in scores that are considered valid for comparison and accountability purposes. Students who received standard accommodations on AIMS 3-8 and AIMS HS will count as having tested for federal accountability (AYP) purposes. Their AIMS results will be included in aggregate results at the school, district, and state level on the paper reports provided by the testing contractor.

Students who receive standard testing accommodations while participating in Stanford 10, AIMS 3-8 or AIMS HS must have their accommodations appropriately identified on their answer

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document as directed in the corresponding *Test Administration Directions*. It is not necessary to identify students who received universal test administration conditions while participating in the Stanford 10, AIMS 3-8 or AIMS HS assessments.

5.2 Test Security

All AIMS tests were administered under secure testing conditions. Figure 5.2.1 includes the security agreement signed by the superintendent/charter representative and district test coordinator involved with the testing administration. Figure 5.2.2 includes the security agreement signed by personnel involved with the testing administration.

District test coordinators are responsible for establishing and enforcing test security procedures that comply with the Test Security Agreement, the State Board of Education Rule regarding test security, and Test Security guidance provided at the Pre-Test Workshop and included in the *AIMS Test Administration Directions.*

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Figure 5.2.1
Spring 2012 AIMS Test security agreement for Superintendents/Charter Representatives and District Test Coordinators

Arizona's Instrument to Measure Standards (AIMS) / Stanford 10
Spring 2012 Test Security Agreement
For Superintendents/Charter Representatives and District Test Coordinators

As Superintendent/Charter Representative or District Test Coordinator, I acknowledge that AIMS and Stanford 10 are secure tests and agree to the following conditions of use to ensure the security of the tests.

1. Superintendents and Charter Representatives are responsible for all testing activities within their district/charter. Superintendents and Charter Representatives are allowed to designate a District Test Coordinator to act on their behalf.
   a. An accurate Test Coordinator Information Sheet for school year 2011 – 2012 must be on file with the Assessment Section of the Arizona Department of Education (ADE).
   b. If the designated District Test Coordinator is unable to attend a Spring 2012 Pre-Test Workshop in January, the superintendent or charter representative is the only substitute permitted to attend in his/her place.
2. All necessary security precautions shall be in place to safeguard test materials.
   a. Access to test books and answer documents shall be restricted.
   b. The names of all persons having access to the test books and answer documents shall be kept on file by the designated district test coordinator.
   c. All persons having access to the Spring 2012 AIMS and/or Stanford 10 test materials, other than students to whom the tests are administered, shall sign a Spring 2012 test security agreement. Signed test security agreements shall be kept on file for 6 years.
      i. Building administrators shall maintain the agreements signed by building staff.
      ii. Superintendents/charter representatives shall maintain the agreements signed by building administrators.
      iii. The Assessment Section of ADE shall maintain the agreements signed by superintendents and charter representatives.
   d. All test books and answer documents shall be kept under lock and key except during actual test times.
      i. Test books and answer documents shall be delivered to test administrators no sooner than the date of testing and returned at the end of each day of testing.
      ii. Test books and answer documents shall be kept secure until they are distributed to students.
      iii. Students shall not be permitted to remove test material from the testing room except under supervision of staff.
   e. The AIMS and Stanford 10 tests shall not be examined, read, or reviewed.
      i. No content of the test shall be disclosed nor allowed to be disclosed.
      ii. No test item shall be discussed at any time.
      iii. No student responses shall be examined, read, or reviewed.
   f. Upon completion of testing, all AIMS and Stanford 10 test materials shall be returned to the designated district test coordinator.
3. The district superintendent or charter representative shall develop, distribute, and enforce disciplinary procedures for the violation of test security by staff.
4. *Test Preparation and Administration Practices,* guidelines approved by the State Board of Education in January 2003 and updated December 2007, shall be followed.
5. **All instructions in the Test Coordinator's Manual, AIMS Test Administration Directions, and Stanford 10 Directions for Administering which include reading the directions to students shall be followed.**

By signing my name to this document, I am assuring the Arizona Department of Education that I will abide by the above conditions and that anyone I supervise, who will have access to the Spring 2012 AIMS and/or Stanford 10 tests will also sign a Test Security Agreement.

Superintendent/Charter Representative Signature: _____ Date: _____

Printed Name: _____ Title: _____

District Test Coordinator Signature: _____ Date: _____

Printed Name: _____

District/Charter: _____ Entity #: _____

Address: _____

City, State, Zip: _____

Fax with Superintendent/Charter Representative signature to 602-542-5467 Due: February 3, 2012

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Figure 5.2.2
Spring 2012 AIMS Test security agreement for all school/district/charter personnel

Arizona's Instrument to Measure Standards (AIMS) / Stanford 10
Spring 2012 Test Security Agreement

I acknowledge that AIMS and Stanford 10 tests are secure tests and agree to the following conditions of use to ensure the security of the test.

1. I shall take necessary precautions to safeguard test materials.
   a. I shall sign a Spring 2012 test security agreement.
   b. Access to test books and answer documents is restricted. I shall not attempt to gain access to test materials beyond that which is granted to me by my school/district test coordinator, superintendent, or charter representative.
   c. If test books and answer documents are distributed to me, I shall keep them under lock and key except during actual test times.
   d. I shall not permit students to remove test material from the testing room except under the supervision of staff.
   e. I shall not examine, read, or review the AIMS and Stanford 10 tests.
      i. I shall not disclose, nor allow to be disclosed, the content of the test.
      ii. I shall not discuss any test item at any time.
      iii. I shall not examine, read, or review any student responses.
   f. If test books and answer documents are distributed to me, I shall return all AIMS and Stanford 10 test materials to the school/district test coordinator immediately upon the completion of testing.
2. I understand that the district superintendent or charter representative will develop, distribute, and enforce disciplinary procedures for the violation of test security by staff.

Individuals who will administer or proctor AIMS or Stanford 10 tests for the Spring 2012 must also agree to the following conditions to ensure the correct administration of the tests.

3. I shall participate in training activities prior to administering the tests.
4. I shall follow *Test Preparation and Administration Practices*, the guidelines approved by the State Board of Education in January 2003 and updated in December 2007.
5. I shall review the Spring 2012 Test Administration Directions and/or Stanford 10 Directions for Administering, as appropriately prior to administering the test.
6. I shall follow all instructions in the Spring 2012 Test Administration Directions and/or Stanford 10 Directions for Administering including **reading the directions to students exactly as scripted**.

By signing my name to this document, I am assuring my district/charter and the Arizona Department of Education that I will abide by the above conditions and that anyone I supervise, who will have access to the Spring 2012 AIMS and/or Stanford 10 tests will also sign a Test Security Agreement.

Signed By: _____ Date: _____

Printed Name: _____

Title: _____ School: _____

Please return signed copy as per instructions from your school/district test coordinator.
Signed copies will be maintained by school/district administrators for 6 years.
Do not send this copy to ADE.

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5.3 Test Administration

In order to ensure a standardized testing administration for all students, a test coordinator's manual was made available to all test coordinators for the Fall 2011 and Spring 2012 administrations. The manual included the following topics:

- Responsibilities of the District Test Coordinator
  - Before Testing
  - During Testing
  - After Testing
- Procedures for Test Administration
  - Students to Be Tested
  - Test Administration Schedules
  - Required Test Materials
  - Test Security
  - Student Identification Information
  - Arrangements Prior to Test Administration
- Procedures for Handling Test Materials (before, during, and after testing)
  - Receiving Test Materials
  - Inventorying Test Materials
  - Precautions
  - Inspecting and Organizing Test Materials
  - Assembling Scorable Test Materials
  - Assembling Nonscorable Test Materials
  - Materials Retrieval
- State Board of Education Rule
- Important Dates for Spring 2012 Testing

Test Administration Directions were made available to all test administrators for the Fall 2011 and Spring 2012 assessments. The Test Administration Directions included the following topics:

- Overview for the Administration of AIMS
  - Test Administrator Responsibilities
  - Students to Be Tested
  - Test Administration Schedule
  - Test Materials

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    - Precautions
- Before Testing Guidelines
    - Training and Test Security
    - Preparing the Room for Testing
- During Testing Guidelines
    - Reading the Scripted Directions
    - Student Identification Information
    - Monitoring Testing
    - Use of Resources
    - Use of Unacceptable Resources
    - Disruptive Students and Students Who Leave During Testing
    - Detailed Scripts for Administration of Each Part of Each Test
- After Testing
    - Inspecting Test Materials
    - Completing Student Identification Information
    - Transferring Student Responses
    - Returning Test Materials to the Test Coordinator

For specific information related to test administration, refer to the Test Coordinator's Manual and/or the Test Administration Directions.

Pre-test workshops were conducted prior for each test administration, fall and spring. Every district test coordinator is required to attend a pre-test workshop. The pre-test workshop encompasses training related to test administration which includes test security, accommodations, test coordinator responsibility, and test schedule. Materials handling training is provided at the pre-test workshop which includes ordering, receiving, preparing for retrieval, and the retrieval of test materials.

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PART 6: CLASSICAL ITEM ANALYSIS

Part 6 presents classical test statistics and item analysis statistics for each content area and grade level (CRT and NRT) computed from the data used for calibration and scaling. Addressed in this part of the technical report are the following AERA/APA/NCME standards: 1.5, 1.13, 2.4, 2.8, 3.18, 6.5, and 7.1. (See Appendix A for this information for the Fall 2011 AIMS administration.)

6.1 Data

Arizona had two test windows for operational testing in spring 2012. The Writing and Reading tests for high school were administered on February 28 and 29, respectively, with make-up testing days on March 6 and 7. The AIMS Mathematics tests for high school were administered on April 10 with a make-up testing day on April 17. High School Science was administered on April 11 (no makeup). The AIMS Reading, Writing, Mathematics, and Science tests for Grades 3-8 were administered between April 16 and April 27.

6.2 Descriptive Statistics by Test

Table 6.2.1 presents descriptive statistics by test (content area and grade level) which are computed with the calibration samples in reading, mathematics, science, and writing. The table shows the number of students (N), the maximum obtained raw score (Max RS), the raw score mean (RS M), the raw score standard deviation (RS SD), the average *p*-value (P-value M), the average item-to-total correlation (*rpb* M) and the estimate of internal consistency. Cronbach's alpha is the measure of internal consistency used for the AIMS Reading, Mathematics and Science tests. Stratified alpha is used to estimate the internal consistence reliability of the AIMS Writing tests. The item-to-total correlation is computed as a point biserial correlation for dichotomous items and as a Pearson product-moment correlation for polytomous items. The point biserial correlation reported is the correlation of the item and sum of other dichotomous operational items. The Pearson product-moment correlation reported is the correlation of the polytomous item and the sum of the other operational items.

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Table 6.2.1
Spring 2012 AIMS Classical Test Analysis Statistics

	Content	Grade	Prompt	N	Max RS Obtained	RS M	RS SD	P-value M	rpb M	Internal Consistency
CRT										
	Math									
		3		82905	66	45.23	12.25	0.69	0.40	0.93
		4		81924	68	45.14	12.81	0.66	0.40	0.93
		5		82386	67	43.30	12.76	0.65	0.39	0.93
		6		81982	68	42.95	13.62	0.63	0.41	0.93
		7		81501	68	44.97	13.42	0.66	0.41	0.94
		8		79958	68	43.16	13.36	0.63	0.40	0.93
		HS		106651	85	47.86	15.87	0.61	0.37	0.94
	Reading									
		3		82909	54	36.61	10.35	0.68	0.40	0.92
		4		81933	54	36.79	10.62	0.68	0.41	0.92
		5		82383	54	36.58	10.15	0.68	0.39	0.91
		6		82027	54	36.50	9.97	0.68	0.39	0.91
		7		81527	54	36.87	9.58	0.68	0.36	0.90
		8		79961	54	37.67	9.43	0.70	0.36	0.90
		HS		94693	54	33.41	10.31	0.65	0.39	0.91
	Writing									
		5		81235	69	503.13	51.84	0.80	0.40	0.87
		6		81377	69	502.05	50.90	0.79	0.38	0.86
		7		80937	69	500.64	48.51	0.81	0.39	0.85
		HS	A	97478	138	494.29	48.72	0.91	0.35	0.85
		HS	T	3092	134	473.89	44.45	0.79	0.34	0.86
	Science									
		4		81892	54	37.18	9.80	0.69	0.37	0.91
		8		80019	58	39.24	9.76	0.68	0.35	0.90
		HS		74486	65	43.37	13.30	0.63	0.43	0.94

Note: CRT = Criterion-referenced test, NRT = Norm-referenced test, HS-A = High School Prompt A, HS-T = High School Prompt T. High school writing test have a maximum raw score of 138 because the essay is weighted 60% and the multiple-choice are weighted 40%.

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Table 6.2.1 (continued)
Spring 2012 AIMS Classical Test Analysis Statistics

	Content	Grade	Form	N	Max RS Obtained	RS M	RS SD	P-value M	rpb M	Internal Consistency
NRT										
	Math									
		3		82905	25	18.82	4.84	0.75	0.40	0.85
		4		81924	25	17.22	4.97	0.69	0.39	0.84
		5		82386	25	15.43	5.30	0.62	0.38	0.84
		6		81982	25	15.67	5.64	0.63	0.42	0.86
		7		81501	25	15.29	5.84	0.61	0.44	0.88
		8		79958	25	14.75	5.73	0.59	0.42	0.87
	Reading									
		3		82909	25	17.01	4.94	0.68	0.39	0.84
		4		81933	25	16.28	5.02	0.65	0.38	0.83
		5		82383	25	16.63	4.97	0.67	0.36	0.82
		6		82027	25	16.16	4.45	0.65	0.31	0.78
		7		81527	25	16.50	4.45	0.66	0.32	0.78
		8		79961	25	17.41	4.20	0.70	0.31	0.77
	Writing									
		3		82909	20	12.36	4.14	0.62	0.35	0.79
		4		81933	20	13.72	4.13	0.69	0.38	0.81
		5		82383	20	13.87	4.09	0.69	0.36	0.80
		6		82027	20	14.50	3.68	0.73	0.34	0.77
		7		81527	20	13.65	3.89	0.68	0.35	0.78
		8		79961	20	14.40	3.56	0.72	0.31	0.74

Note: CRT = Criterion-referenced test, NRT = Norm-referenced test
.

6.3 Classical Item Analysis

Classical item analysis was conducted for all grades and content areas. Tables 6.3.1—6.3.22 present item statistics for the CRT tests. Note that operational CRT items are reported in sequence without embedded field test and non-dual purpose NRT/CRT items. Tables 6.3.23—6.3.40 present item statistics for the NRT tests. The tables show the number of students (N), the item difficulty (P-Value), point biserial correlation (*rpb*) and biserial correlation (*rbi*) for dichotomous items, item-to-total Pearson product-moment correlation (*r*) for polytomous items, percentage of students who omitted the item (% Omit), and the percentage of students responding to and point biserial for each response option. The keyed response has a percent responding that matches the *p*-value and a positive point biserial correlation while the incorrect response options have a negative point biserial correlation. The item-to-total Pearson product-moment correlation reported is the Pearson product moment correlation of the item and sum of other operational items. The point biserial correlation (*rpb*) reported is the correlation between a student's performance on an item and the total score on a test. The biserial correlation (*rbi*) is an adjusted point-biserial correlation intended to estimate the value of a Pearson correlation between the item and total score as if the item scores were normally distributed rather than binary.

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Table 6.3.1
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 3

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82872	0.80	0.39	0.56	0.11	80.41	0.39	3.31	-0.26	13.54	-0.20	2.63	-0.24
2	82872	0.75	0.09	0.12	0.14	20.75	0.02	2.23	-0.17	1.38	-0.16	75.50	0.09
3	82872	0.75	0.48	0.64	0.19	15.22	-0.38	5.83	-0.25	75.20	0.48	3.55	-0.08
4	82872	0.65	0.42	0.53	0.11	17.89	-0.24	14.03	-0.22	65.30	0.42	2.67	-0.19
5	82872	0.71	0.58	0.75	0.43	17.48	-0.43	8.13	-0.26	3.12	-0.14	70.83	0.58
6	82872	0.65	0.45	0.57	0.38	10.46	-0.33	19.25	-0.15	5.11	-0.26	64.79	0.45
7	82872	0.43	0.47	0.58	0.24	23.85	-0.28	42.74	0.47	29.58	-0.19	3.59	-0.12
8	82872	0.75	0.34	0.46	0.35	75.35	0.34	8.18	-0.18	9.19	-0.19	6.94	-0.15
9	82872	0.47	0.35	0.43	0.56	37.98	-0.18	10.65	-0.14	47.26	0.35	3.54	-0.22
10	82872	0.79	0.44	0.61	0.22	7.91	-0.24	4.03	-0.21	79.29	0.44	8.55	-0.24
11	82872	0.67	0.42	0.53	0.23	13.80	-0.24	8.87	-0.23	66.52	0.42	10.58	-0.16
12	82872	0.82	0.51	0.72	0.41	9.03	-0.37	4.23	-0.22	4.65	-0.21	81.69	0.51
13	82872	0.89	0.20	0.32	1.56	0.67	-0.10	89.38	0.20	8.04	-0.16	0.35	-0.10
14	82872	0.46	0.33	0.41	0.30	7.01	-0.16	29.28	-0.14	17.89	-0.15	45.51	0.33
15	82872	0.65	0.46	0.57	0.32	12.79	-0.20	65.11	0.46	10.35	-0.16	11.43	-0.32
16	82872	0.46	0.38	0.47	0.35	45.50	0.38	29.20	-0.24	14.55	-0.16	10.39	-0.06
17	82872	0.54	0.44	0.55	0.21	27.14	-0.40	53.68	0.44	6.48	-0.11	12.49	-0.04
18	82872	0.79	0.31	0.44	1.14	11.40	-0.18	4.82	-0.17	3.44	-0.17	79.20	0.31
19	82872	0.83	0.48	0.69	0.37	6.92	-0.26	4.08	-0.20	5.98	-0.30	82.66	0.48
20	82872	0.76	0.40	0.54	0.92	13.88	-0.24	75.66	0.40	5.63	-0.20	3.92	-0.20
21	82872	0.72	0.42	0.55	1.51	8.17	-0.25	13.07	-0.22	72.05	0.42	5.20	-0.19
22	82872	0.47	0.33	0.41	0.46	47.15	0.33	11.38	-0.10	33.80	-0.20	7.21	-0.17
23	82872	0.62	0.45	0.57	0.56	16.26	-0.24	7.16	-0.21	14.45	-0.22	61.57	0.45
24	82872	0.54	0.34	0.42	0.12	40.37	-0.25	54.32	0.34	3.24	-0.15	1.94	-0.16
25	82872	0.80	0.45	0.64	0.27	79.88	0.45	8.35	-0.25	6.40	-0.24	5.10	-0.24
26	82872	0.65	0.41	0.51	0.36	10.72	-0.29	64.85	0.41	17.15	-0.11	6.93	-0.24
27	82872	0.39	-0.03	-0.04	0.30	12.24	-0.20	42.95	0.25	39.40	-0.03	5.11	-0.20
28	82872	0.59	0.55	0.68	0.50	5.17	-0.18	59.05	0.55	4.03	-0.19	31.25	-0.42
29	82872	0.42	0.31	0.39	0.14	42.07	0.31	27.98	0.05	27.88	-0.34	1.92	-0.17
30	82872	0.69	0.50	0.64	0.37	14.70	-0.29	8.54	-0.22	69.28	0.50	7.11	-0.24
31	82872	0.70	0.54	0.69	0.34	19.72	-0.40	3.68	-0.25	6.48	-0.16	69.78	0.54
32	82872	0.83	0.47	0.68	0.24	3.43	-0.27	4.60	-0.27	9.22	-0.25	82.51	0.47
33	82872	0.90	0.36	0.61	0.32	4.33	-0.23	1.76	-0.17	3.91	-0.20	89.68	0.36
34	82872	0.65	0.46	0.58	0.20	9.95	-0.28	17.06	-0.22	65.26	0.46	7.53	-0.18
35	82872	0.81	0.29	0.42	0.27	3.50	-0.21	6.09	-0.14	8.67	-0.14	81.47	0.29
36	82872	0.86	0.46	0.70	0.27	85.64	0.46	8.07	-0.29	3.16	-0.23	2.87	-0.25
37	82872	0.68	0.43	0.55	0.32	8.42	-0.21	11.76	-0.21	67.98	0.43	11.52	-0.23
38	82872	0.31	0.24	0.32	0.50	29.31	-0.07	18.95	-0.21	31.04	0.24	20.21	0.01
39	82872	0.80	0.41	0.57	0.27	4.55	-0.15	80.37	0.41	2.85	-0.23	11.95	-0.28
40	82872	0.68	0.47	0.61	0.22	17.52	-0.27	67.89	0.47	10.50	-0.22	3.87	-0.27

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.1 (continued)
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 3

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	82872	0.88	0.4321899	0.68	0.26	87.77	0.4321899	3.95	-0.241035	3.69	-0.237491	4.34	-0.238572
42	82872	0.6	0.4447015	0.55	0.36	16.87	-0.189003	17.75	-0.226016	5.4	-0.267754	59.61	0.4447015
43	82872	0.67	0.4590506	0.59	0.48	67.36	0.4590506	11.96	-0.222083	12.77	-0.22906	7.43	-0.250669
44	82872	0.49	0.4257116	0.52	0.12	20.35	-0.222728	15.63	-0.113696	15.32	-0.226944	48.58	0.4257116
45	82872	0.83	0.4665228	0.68	0.29	5.55	-0.255367	4.24	-0.282986	6.74	-0.230426	83.18	0.4665228
46	82872	0.9	0.2845878	0.48	0.07	2.75	-0.171097	5.4	-0.166028	89.73	0.2845878	2.05	-0.14546
47	82872	0.71	0.4994638	0.65	0.16	12.16	-0.259379	9.77	-0.277761	6.59	-0.23472	71.32	0.4994638
48	82872	0.46	0.2826288	0.35	0.38	19.5	-0.060977	25.71	-0.187823	45.56	0.2826288	8.85	-0.120986
49	82872	0.93	0.246847	0.47	0.24	93.31	0.246847	2.81	-0.15434	3.02	-0.142778	0.62	-0.136294
50	82872	0.52	0.2116875	0.26	0.17	26.3	-0.019112	51.58	0.2116875	11.17	-0.14355	10.78	-0.167905
51	82872	0.4	0.2981411	0.37	0.3	19.75	-0.114036	28.25	-0.095952	11.84	-0.177261	39.85	0.2981411
52	82872	0.81	0.4776052	0.68	0.18	81.19	0.4776052	4.39	-0.140139	2.56	-0.18273	11.69	-0.399634
53	82872	0.73	0.4746864	0.63	0.47	9.05	-0.259871	73.35	0.4746864	10.74	-0.29546	6.38	-0.173861
54	82872	0.74	0.3706474	0.5	0.17	2	-0.193554	4.07	-0.236301	74.33	0.3706474	19.42	-0.221656
55	82872	0.74	0.4478938	0.6	0.32	9.13	-0.201107	7.47	-0.199204	74.27	0.4478938	8.81	-0.298559
56	82872	0.92	0.2503181	0.44	1.26	1.47	-0.116498	92.36	0.2503181	1.36	-0.147318	3.54	-0.162459
57	82872	0.64	0.4417804	0.56	0.22	8.04	-0.251817	22.83	-0.235492	64.21	0.4417804	4.7	-0.208382
58	82872	0.72	0.4825525	0.59	4.09	7.46	-0.251615	11.24	-0.242022	5.63	-0.275443	71.59	0.4825525
59	82872	0.82	0.3734505	0.55	0.37	3.58	-0.191676	82.38	0.3734505	9.22	-0.242297	4.45	-0.171424
60	82872	0.83	0.3541638	0.52	0.13	4.88	-0.186001	6.6	-0.253089	5.73	-0.132383	82.66	0.3541638
61	82872	0.53	0.3696257	0.46	0.32	20.09	-0.144814	53.2	0.3696257	15.34	-0.21846	11.04	-0.151205
62	82872	0.77	0.4530459	0.62	0.25	5.71	-0.246846	6.63	-0.230962	9.95	-0.246448	77.46	0.4530459
63	82872	0.86	0.4530115	0.7	0.54	86.46	0.4530115	4.35	-0.278743	4.7	-0.263467	3.94	-0.20372
64	82872	0.85	0.5362501	0.8	1.04	6.23	-0.366364	1.58	-0.202372	85.48	0.5362501	5.68	-0.299482
65	82872	0.6	0.4323241	0.54	0.24	59.71	0.4323241	12.32	-0.211748	16.25	-0.191854	11.48	-0.223755
66	82872	0.53	0.4691661	0.58	0.34	8.79	-0.222847	53.25	0.4691661	25.64	-0.327694	11.98	-0.084828

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.2
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 4

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81923	0.83	0.3572736	0.53	0.02	83.29	0.3572736	6.44	-0.20326	6.84	-0.216639	3.4	-0.157859
2	81923	0.72	0.4795007	0.63	0.03	72.42	0.4795007	23.61	-0.379812	2.45	-0.218525	1.49	-0.157864
3	81923	0.7	0.5555977	0.72	0.05	5.68	-0.147104	70.35	0.5555977	12.05	-0.301022	11.87	-0.375857
4	81923	0.49	0.2843723	0.35	0.06	9.01	-0.285251	26.44	-0.027181	49.44	0.2843723	15.04	-0.135596
5	81923	0.4	0.4435492	0.55	0.04	24.99	-0.235487	39.98	0.4435492	11.92	-0.159802	23.06	-0.150798
6	81923	0.92	0.3435013	0.63	0.05	2	-0.147885	1.43	-0.1486	4.3	-0.263216	92.22	0.3435013
7	81923	0.93	0.3785688	0.69	0.04	92.55	0.3785688	4.19	-0.264105	1.85	-0.191461	1.38	-0.175791
8	81923	0.74	0.4351283	0.58	0.06	5.55	-0.194357	6.9	-0.165744	74.06	0.4351283	13.43	-0.30516
9	81923	0.38	0.3219862	0.41	0.07	17	-0.227274	25.81	-0.126752	37.88	0.3219862	19.25	-0.038915
10	81923	0.52	0.3606309	0.45	0.06	20.09	-0.174419	52.41	0.3606309	9.72	-0.150554	17.72	-0.171728
11	81923	0.64	0.4582238	0.58	0.1	15.25	-0.279518	8.08	-0.250902	12.7	-0.153383	63.87	0.4582238
12	81923	0.77	0.4179936	0.57	0.07	77.16	0.4179936	7.22	-0.245136	10.18	-0.203436	5.37	-0.22313
13	81923	0.51	0.3291712	0.41	0.06	18.73	-0.132595	50.88	0.3291712	15.28	-0.175184	15.06	-0.139142
14	81923	0.37	0.421003	0.53	0.08	50.84	-0.368221	37.04	0.421003	4.66	-0.096273	7.38	0.0039739
15	81923	0.76	0.4406111	0.6	0.08	10.27	-0.140927	7.91	-0.307603	76.08	0.4406111	5.66	-0.268003
16	81923	0.55	0.2326955	0.29	0.08	6.05	-0.214901	34.04	-0.042781	54.67	0.2326955	5.16	-0.200053
17	81923	0.64	0.3459205	0.44	0.05	6.6	-0.245712	5.57	-0.260152	23.85	-0.10651	63.93	0.3459205
18	81923	0.79	0.4878016	0.68	0.1	9.72	-0.265129	5.61	-0.262783	5.44	-0.259495	79.12	0.4878016
19	81923	0.83	0.3574863	0.53	0.07	83.47	0.3574863	6.81	-0.166832	6.35	-0.247419	3.3	-0.16899
20	81923	0.71	0.5103634	0.66	0.13	9.99	-0.250881	71.18	0.5103634	13.21	-0.288675	5.49	-0.25389
21	81923	0.77	0.2860312	0.39	0.08	15.58	-0.147195	3.27	-0.202953	77.17	0.2860312	3.9	-0.157134
22	81923	0.62	0.4472253	0.56	0.16	7.46	-0.207172	11.94	-0.272061	18.89	-0.190738	61.55	0.4472253
23	81923	0.74	0.4738808	0.63	0.15	8.78	-0.258904	8.19	-0.293049	74.06	0.4738808	8.82	-0.18919
24	81923	0.78	0.3027527	0.42	0.23	9.05	-0.206442	77.81	0.3027527	3.92	-0.160089	8.99	-0.122351
25	81923	0.47	0.4139255	0.51	0.04	24.16	-0.189889	47.25	0.4139255	16.38	-0.167739	12.17	-0.193519
26	81923	0.77	0.465457	0.63	0.03	6.24	-0.234553	76.57	0.465457	9.62	-0.183278	7.53	-0.326803
27	81923	0.82	0.4327056	0.63	0.07	82.35	0.4327056	3.04	-0.235098	3.44	-0.247145	11.1	-0.252452
28	81923	0.73	0.4034264	0.53	0.08	3.59	-0.193238	3.85	-0.178259	19.36	-0.27443	73.12	0.4034264
29	81923	0.65	0.4807951	0.61	0.05	16.15	-0.40307	8.39	-0.199776	10.88	-0.084218	64.54	0.4807951
30	81923	0.88	0.4260385	0.67	0.04	87.6	0.4260385	4.12	-0.21497	2.91	-0.233064	5.33	-0.259597
31	81923	0.45	0.3144677	0.39	0.07	18.78	-0.267297	13.15	-0.215597	44.67	0.3144677	23.32	0.0495426
32	81923	0.71	0.3685973	0.48	0.03	2.55	-0.186482	3.9	-0.189726	22.96	-0.242108	70.56	0.3685973
33	81923	0.46	0.3802705	0.47	0.09	45.67	0.3802705	17.47	-0.19126	21.1	-0.16522	15.67	-0.135731
34	81923	0.46	0.4365252	0.54	0.07	7.69	-0.11865	46.33	0.4365252	9.56	-0.1766	36.35	-0.278796
35	81923	0.78	0.4185718	0.58	0.06	78.23	0.4185718	4.08	-0.242396	5.46	-0.238403	12.17	-0.215454
36	81923	0.53	0.4303277	0.53	0.06	41.29	-0.316233	53.39	0.4303277	2.59	-0.194424	2.68	-0.173834
37	81923	0.77	0.3981328	0.55	0.07	77.12	0.3981328	4.94	-0.189524	10.88	-0.198822	6.98	-0.251294
38	81923	0.65	0.396604	0.5	0.03	65.22	0.396604	16.33	-0.099628	11.85	-0.312851	6.56	-0.205487
39	81923	0.83	0.4461518	0.66	0.08	4.57	-0.231324	5.74	-0.222241	6.43	-0.271321	83.18	0.4461518
40	81923	0.65	0.4762265	0.6	0.06	9.84	-0.229339	64.53	0.4762265	11.74	-0.168646	13.83	-0.304522

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.2 (continued)
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 4

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	81923	0.43	0.2352395	0.29	0.09	43.23	0.2352395	18.5	-0.17718	20.39	-0.068303	17.8	-0.05279
42	81923	0.79	0.4574451	0.64	0.05	79.26	0.4574451	8.06	-0.281698	9.61	-0.256559	3.02	-0.192848
43	81923	0.69	0.4984372	0.64	0.08	18.66	-0.399274	68.77	0.4984372	6.86	-0.157144	5.63	-0.15416
44	81923	0.53	0.4069177	0.5	0.11	19.98	-0.207085	16.16	-0.158593	10.85	-0.198803	52.9	0.4069177
45	81923	0.72	0.5606138	0.73	0.04	7.71	-0.257294	9.14	-0.251609	11.51	-0.349509	71.6	0.5606138
46	81923	0.55	0.2177896	0.27	0.04	55.11	0.2177896	32.15	-0.036156	8.02	-0.229675	4.69	-0.137437
47	81923	0.73	0.3765511	0.5	0.07	8.48	-0.244351	73.11	0.3765511	13.26	-0.159338	5.08	-0.203611
48	81923	0.82	0.3577262	0.52	0.07	1.06	-0.166558	1.53	-0.151109	81.98	0.3577262	15.36	-0.28196
49	81923	0.75	0.3718869	0.5	0.03	6.4	-0.244513	7.74	-0.280381	75.28	0.3718869	10.55	-0.083325
50	81923	0.8	0.5782307	0.81	0.04	11.23	-0.408584	4.85	-0.261775	4.17	-0.235729	79.71	0.5782307
51	81923	0.5	0.2802914	0.35	0.07	50.23	0.2802914	39.16	-0.190356	3.76	-0.113651	6.78	-0.101741
52	81923	0.88	0.3313108	0.54	0.06	3.47	-0.178862	3.89	-0.176237	4.36	-0.194683	88.22	0.3313108
53	81923	0.62	0.4772839	0.6	0.08	15.71	-0.194835	12.25	-0.268321	10.22	-0.240867	61.74	0.4772839
54	81923	0.64	0.450933	0.57	0.06	63.71	0.450933	20.8	-0.251043	6.93	-0.196534	8.5	-0.232804
55	81923	0.6	0.3643725	0.46	0.05	14.36	-0.276042	8.4	-0.188441	17	-0.0778	60.19	0.3643725
56	81923	0.4	0.311649	0.39	0.05	22.14	-0.120887	20.43	-0.161763	40.05	0.311649	17.33	-0.098497
57	81923	0.33	0.3189028	0.41	0.09	33.56	-0.048378	32.6	0.3189028	25.55	-0.154093	8.19	-0.216742
58	81923	0.67	0.3583752	0.46	0.1	16.08	-0.262539	14.27	-0.120123	2.13	-0.203394	67.42	0.3583752
59	81923	0.82	0.3646177	0.52	0.1	81.63	0.3646177	4.87	-0.187823	9.71	-0.198757	3.69	-0.220663
60	81923	0.74	0.4713308	0.63	0.07	10.86	-0.283818	4.67	-0.243418	10.19	-0.21928	74.21	0.4713308
61	81923	0.83	0.3441057	0.51	0.12	3.74	-0.24481	83.26	0.3441057	8.42	-0.147971	4.47	-0.196429
62	81923	0.29	0.2345434	0.31	0.08	29.36	0.2345434	7.89	-0.11312	21.48	-0.067229	41.19	-0.098959
63	81923	0.79	0.4446284	0.62	0.12	10.5	-0.253954	78.62	0.4446284	5.06	-0.258686	5.7	-0.204241
64	81923	0.57	0.2984975	0.37	0.08	56.85	0.2984975	16.43	-0.109873	16.71	-0.172111	9.93	-0.143287
65	81923	0.82	0.4589026	0.66	0.12	5.58	-0.289628	81.72	0.4589026	5.51	-0.238059	7.07	-0.21888
66	81923	0.72	0.3805597	0.5	0.14	4.26	-0.237604	16.47	-0.15426	72.3	0.3805597	6.83	-0.256922
67	81923	0.79	0.4533222	0.63	0.1	9.42	-0.286457	78.88	0.4533222	6.92	-0.212015	4.68	-0.223526
68	81923	0.59	0.4156246	0.52	0.29	20.78	-0.215145	7.24	-0.173802	12.39	-0.216948	59.3	0.4156246

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.3
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 5

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82384	0.71	0.2975619	0.39	0.03	14.92	-0.245688	71.41	0.2975619	1.74	-0.155952	11.91	-0.08177
2	82384	0.67	0.4613603	0.59	0.05	67.24	0.4613603	13.2	-0.262193	6.25	-0.27487	13.27	-0.18033
3	82384	0.73	0.4868697	0.64	0.09	7.41	-0.265848	9.64	-0.24172	72.62	0.4868697	10.24	-0.250267
4	82384	0.7	0.3823849	0.49	0.08	69.54	0.3823849	21.27	-0.22133	5.54	-0.198103	3.58	-0.215064
5	82384	0.25	0.3227196	0.43	0.05	53.69	-0.244257	11.86	-0.036922	9.12	-0.022761	25.28	0.3227196
6	82384	0.74	0.5098134	0.68	0.05	12.56	-0.320476	5.27	-0.168137	7.7	-0.294523	74.43	0.5098134
7	82384	0.65	0.4228278	0.53	0.04	4.56	-0.15809	28.21	-0.320696	64.51	0.4228278	2.68	-0.154474
8	82384	0.84	0.4773125	0.71	0.06	83.92	0.4773125	4.94	-0.225981	6.35	-0.282767	4.72	-0.269226
9	82384	0.45	0.432491	0.53	0.03	10.22	-0.097943	45.02	0.432491	22.63	-0.159099	22.1	-0.286619
10	82384	0.63	0.4238352	0.53	0.1	7.3	-0.232837	18.08	-0.18056	11.18	-0.234923	63.36	0.4238352
11	82384	0.69	0.3841979	0.5	0.05	69.21	0.3841979	5.84	-0.232093	14.99	-0.169685	9.92	-0.208357
12	82384	0.71	0.4145194	0.54	0.05	11.35	-0.223027	5.86	-0.229597	70.97	0.4145194	11.76	-0.19663
13	82384	0.77	0.4370059	0.6	0.05	7.07	-0.225191	76.79	0.4370059	11.27	-0.233316	4.82	-0.246706
14	82384	0.84	0.3552596	0.53	0.02	2.11	-0.163971	7.39	-0.2345	83.74	0.3552596	6.73	-0.183893
15	82384	0.58	0.5453998	0.67	0.11	9.7	-0.231955	10.45	-0.276111	21.81	-0.280791	57.94	0.5453998
16	82384	0.8	0.4047492	0.57	0.07	10.8	-0.208951	79.86	0.4047492	5.57	-0.234583	3.69	-0.230201
17	82384	0.72	0.4330414	0.57	0.08	12.52	-0.090245	71.63	0.4330414	7.57	-0.28973	8.21	-0.322481
18	82384	0.65	0.409278	0.52	0.11	64.81	0.409278	25.32	-0.251602	6.98	-0.214333	2.77	-0.19031
19	82384	0.64	0.5115666	0.64	0.06	13.19	-0.28845	63.58	0.5115666	15.17	-0.233459	8	-0.238427
20	82384	0.87	0.3853949	0.6	0.07	3.47	-0.170787	86.64	0.3853949	3.9	-0.208256	5.92	-0.251042
21	82384	0.62	0.4837522	0.6	0.1	61.58	0.4837522	11.05	-0.220692	17.7	-0.254848	9.57	-0.233418
22	82384	0.58	0.4001344	0.5	0.2	16.43	-0.346871	57.59	0.4001344	17.58	-0.017078	8.2	-0.227735
23	82384	0.64	0.4134502	0.52	0.23	9.44	-0.30482	63.73	0.4134502	20.56	-0.155124	6.04	-0.195583
24	82384	0.93	0.2292927	0.43	0.02	1.76	-0.119537	1.79	-0.119418	93.02	0.2292927	3.41	-0.147661
25	82384	0.62	0.5061247	0.63	0.05	7.64	-0.204554	61.59	0.5061247	12.99	-0.242509	17.73	-0.28858
26	82384	0.88	0.3599799	0.58	0.04	3.4	-0.213003	4.75	-0.181799	3.86	-0.206355	87.96	0.3599799
27	82384	0.41	0.2859228	0.36	0.02	16.47	-0.103942	29.27	-0.136353	41.39	0.2859228	12.84	-0.120235
28	82384	0.68	0.4109369	0.53	0.03	68.05	0.4109369	17.68	-0.271902	8.91	-0.187507	5.33	-0.15317
29	82384	0.85	0.5025187	0.76	0.03	6.91	-0.312401	85.01	0.5025187	5.11	-0.258129	2.94	-0.255492
30	82384	0.79	0.4895324	0.68	0.05	78.77	0.4895324	6.21	-0.267112	9.2	-0.305597	5.77	-0.202479
31	82384	0.82	0.3450113	0.5	0.05	3.27	-0.200614	6.02	-0.300562	81.63	0.3450113	9.03	-0.091707
32	82384	0.94	0.3233765	0.62	0.04	1.53	-0.179642	1.64	-0.188377	3.16	-0.187357	93.63	0.3233765
33	82384	0.62	0.4509932	0.57	0.05	27.17	-0.281762	6.08	-0.198363	62.4	0.4509932	4.3	-0.224986
34	82384	0.74	0.5242778	0.7	0.04	74.09	0.5242778	9.69	-0.320705	6.83	-0.247028	9.36	-0.248651
35	82384	0.74	0.4785429	0.63	0.05	73.63	0.4785429	5.84	-0.264927	12.36	-0.238908	8.13	-0.256141
36	82384	0.51	0.2762406	0.34	0.04	6.48	-0.109336	50.98	0.2762406	27.65	-0.127754	14.85	-0.151893
37	82384	0.7	0.3019999	0.39	0.05	69.73	0.3019999	8.27	-0.208189	17.6	-0.099954	4.36	-0.211953
38	82384	0.71	0.4619677	0.6	0.03	13.62	-0.176041	71.29	0.4619677	4.87	-0.245643	10.19	-0.316197
39	82384	0.67	0.3641332	0.47	0.08	11.23	-0.32927	67.35	0.3641332	14.75	-0.023673	6.58	-0.234981
40	82384	0.47	0.224642	0.28	0.06	47.25	0.224642	20.57	-0.129028	17.74	-0.115116	14.37	-0.045596

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.3 (continued)
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 5

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	82384	0.39	0.1755215	0.22	0.06	12.36	-0.114218	15.91	-0.145349	32.6	0.0109423	39.07	0.1755215
42	82384	0.48	0.3372734	0.42	0.06	5.14	-0.228186	17.55	-0.157054	48.38	0.3372734	28.86	-0.128815
43	82384	0.43	0.3565865	0.44	0.06	17.58	-0.254831	30.18	-0.028644	9.15	-0.230209	43.03	0.3565865
44	82384	0.34	0.2741443	0.35	0.18	29.95	-0.077036	13.3	-0.233805	22.69	-0.035932	33.88	0.2741443
45	82384	0.76	0.4761848	0.65	0.04	9.95	-0.213349	76.34	0.4761848	7.98	-0.285126	5.69	-0.263867
46	82384	0.49	0.2994282	0.37	0.05	13.07	-0.163543	21.88	-0.081554	48.8	0.2994282	16.21	-0.164989
47	82384	0.6	0.4832492	0.6	0.06	59.93	0.4832492	7.8	-0.282164	22.52	-0.224663	9.69	-0.227224
48	82384	0.78	0.4439489	0.62	0.08	78.42	0.4439489	6.95	-0.163597	6.36	-0.268684	8.19	-0.274191
49	82384	0.71	0.4396224	0.57	0.03	9.3	-0.326347	8.56	-0.217596	71.24	0.4396224	10.87	-0.138943
50	82384	0.31	0.1549358	0.2	0.07	40.81	0.0725058	30.66	0.1549358	18.21	-0.155106	10.24	-0.155683
51	82384	0.57	0.3828037	0.48	0.07	57.41	0.3828037	15.14	-0.24899	14.76	-0.167707	12.62	-0.121873
52	82384	0.52	0.4154816	0.51	0.06	20.51	-0.176482	12.21	-0.23433	15.34	-0.165292	51.89	0.4154816
53	82384	0.34	0.1669998	0.21	0.02	31.92	0.0293563	34.07	0.1669998	21.28	-0.183486	12.71	-0.05325
54	82384	0.58	0.3833317	0.48	0.08	13.53	-0.179841	57.77	0.3833317	14.65	-0.252857	13.97	-0.110567
55	82384	0.63	0.4232746	0.53	0.04	10.95	-0.248171	14.43	-0.11983	11.23	-0.266936	63.35	0.4232746
56	82384	0.7	0.4703004	0.61	0.02	9.74	-0.238971	9.37	-0.240764	10.61	-0.240014	70.26	0.4703004
57	82384	0.74	0.3581923	0.48	0.06	10.11	-0.223897	73.67	0.3581923	5.87	-0.243666	10.29	-0.108109
58	82384	0.56	0.227582	0.28	0.06	18.29	-0.097733	11.87	-0.1234	13.91	-0.101939	55.87	0.227582
59	82384	0.69	0.4111263	0.53	0.08	68.76	0.4111263	7.8	-0.220359	14.12	-0.212017	9.23	-0.198447
60	82384	0.68	0.4823172	0.62	0.03	8.82	-0.270557	68.06	0.4823172	13.02	-0.244862	10.06	-0.218267
61	82384	0.53	0.4618396	0.57	0.06	31.32	-0.339605	8.58	-0.168601	52.56	0.4618396	7.49	-0.098182
62	82384	0.69	0.3504587	0.46	0.04	2.09	-0.123749	69.33	0.3504587	19.12	-0.309384	9.4	-0.075831
63	82384	0.4	0.4311911	0.54	0.05	21.2	-0.324506	26.52	-0.075115	40.41	0.4311911	11.81	-0.1418
64	82384	0.68	0.443324	0.57	0.04	15.58	-0.217694	68.33	0.443324	9.16	-0.275015	6.88	-0.189002
65	82384	0.56	0.4797804	0.59	0.11	7.11	-0.224685	22.65	-0.220833	55.76	0.4797804	14.38	-0.250787
66	82384	0.7	0.3627905	0.47	0.08	16.26	-0.2034	70.24	0.3627905	7.13	-0.187794	6.28	-0.174405
67	82384	0.89	0.2674192	0.44	0.38	3.92	-0.133787	89.25	0.2674192	2.7	-0.156973	3.75	-0.158485

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.4
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 6

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82010	0.62	0.4155402	0.52	0.21	10.89	-0.18823	61.94	0.4155402	21.23	-0.241013	5.73	-0.190386
2	82010	0.49	0.3203929	0.4	0.06	16.98	-0.286064	5.61	-0.18398	48.83	0.3203929	28.51	-0.022919
3	82010	0.44	0.382477	0.47	0.14	21.43	-0.110833	11.19	-0.174577	43.75	0.382477	23.49	-0.210278
4	82010	0.62	0.3436317	0.43	0.12	11.44	-0.109095	6.22	-0.210006	61.7	0.3436317	20.52	-0.201672
5	82010	0.74	0.3232585	0.43	0.06	14.35	-0.158491	73.62	0.3232585	6.89	-0.211183	5.08	-0.151603
6	82010	0.71	0.4971614	0.64	0.04	9.9	-0.290698	3.42	-0.155647	16.1	-0.303149	70.54	0.4971614
7	82010	0.76	0.4981831	0.67	0.11	10.89	-0.309848	76.02	0.4981831	7.16	-0.214135	5.83	-0.258793
8	82010	0.79	0.4224315	0.59	0.06	6.4	-0.208573	6.02	-0.227288	79.28	0.4224315	8.24	-0.239663
9	82010	0.54	0.4111692	0.51	0.17	27.21	-0.241036	54.41	0.4111692	7.44	-0.162727	10.77	-0.176222
10	82010	0.44	0.3235843	0.4	0.11	6.97	-0.145903	44.11	0.3235843	14.83	-0.175792	33.98	-0.128766
11	82010	0.52	0.3993812	0.49	0.04	23.38	-0.181637	6.5	-0.243	17.84	-0.163643	52.24	0.3993812
12	82010	0.64	0.3857742	0.49	0.05	16.1	-0.123147	63.5	0.3857742	11.17	-0.245185	9.18	-0.218703
13	82010	0.38	0.5087587	0.64	0.08	23.93	-0.298367	9.58	-0.193076	28.51	-0.138756	37.9	0.5087587
14	82010	0.69	0.2858013	0.37	0.03	2.12	-0.16287	20.22	-0.137083	69.32	0.2858013	8.31	-0.192918
15	82010	0.55	0.3873738	0.48	0.05	21.95	-0.166397	54.99	0.3873738	16.1	-0.180994	6.91	-0.225794
16	82010	0.6	0.3370161	0.42	0.1	60	0.3370161	18.86	-0.244691	11.57	-0.126203	9.48	-0.098708
17	82010	0.83	0.3868915	0.57	0.04	2.66	-0.195659	83.45	0.3868915	12.09	-0.27783	1.75	-0.164185
18	82010	0.5	0.4235352	0.52	0.04	11.15	-0.283446	22.8	-0.175303	16.4	-0.132181	49.61	0.4235352
19	82010	0.55	0.4497508	0.56	0.07	11.84	-0.158462	15.63	-0.100012	54.83	0.4497508	17.62	-0.357482
20	82010	0.59	0.342904	0.43	0.09	9.07	-0.150506	18	-0.205192	58.69	0.342904	14.16	-0.133949
21	82010	0.7	0.3924779	0.51	0.07	6.29	-0.299739	10.93	-0.203896	12.48	-0.129879	70.24	0.3924779
22	82010	0.64	0.4542305	0.57	0.05	14.07	-0.25748	11	-0.220392	64.09	0.4542305	10.8	-0.191244
23	82010	0.84	0.4245829	0.63	0.21	2.89	-0.186979	2.61	-0.170775	10.26	-0.316817	84.03	0.4245829
24	82010	0.67	0.4808297	0.61	0.05	7.64	-0.316683	20.06	-0.277542	66.65	0.4808297	5.59	-0.136154
25	82010	0.79	0.3743219	0.52	0.02	18.1	-0.300135	1.88	-0.166938	78.54	0.3743219	1.46	-0.128235
26	82010	0.7	0.5499371	0.71	0.05	14.66	-0.301374	8.65	-0.308852	6.69	-0.234389	69.95	0.5499371
27	82010	0.85	0.403718	0.62	0.04	3.42	-0.09883	7.75	-0.346001	3.34	-0.176481	85.45	0.403718
28	82010	0.74	0.27478	0.37	0.03	10.63	-0.172915	3	-0.146606	73.88	0.27478	12.46	-0.128238
29	82010	0.69	0.5257271	0.68	0.05	13.89	-0.279175	7.61	-0.265459	9.29	-0.260795	69.15	0.5257271
30	82010	0.47	0.2561574	0.32	0.07	23.11	-0.031926	47.03	0.2561574	14.26	-0.165008	15.53	-0.156455
31	82010	0.58	0.3986069	0.5	0.03	19.03	-0.166187	14.2	-0.190146	9.13	-0.226754	57.6	0.3986069
32	82010	0.76	0.3736171	0.51	0.05	5.4	-0.244433	11.08	-0.252116	76.1	0.3736171	7.38	-0.095096
33	82010	0.51	0.2614942	0.32	0.03	14.35	-0.152733	10.01	-0.233104	50.75	0.2614942	24.86	-0.016642
34	82010	0.42	0.2983617	0.37	0.05	13.13	-0.256169	26.35	-0.038539	18.13	-0.113912	42.34	0.2983617
35	82010	0.72	0.5396651	0.7	0.1	10.83	-0.272841	71.59	0.5396651	9.39	-0.295176	8.09	-0.264762
36	82010	0.69	0.3786353	0.49	0.04	68.83	0.3786353	11.12	-0.231166	14.65	-0.177688	5.35	-0.176792
37	82010	0.57	0.4351174	0.54	0.02	12.3	-0.270185	56.79	0.4351174	23.39	-0.179582	7.49	-0.19272
38	82010	0.52	0.352971	0.44	0.05	16.25	-0.177013	13.8	-0.112344	17.84	-0.188667	52.06	0.352971
39	82010	0.79	0.3942794	0.55	0.07	78.63	0.3942794	6.36	-0.215372	9.57	-0.228748	5.38	-0.184363
40	82010	0.44	0.2220864	0.28	0.08	26.42	-0.096384	18.13	-0.065074	43.93	0.2220864	11.44	-0.13391

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.4 (continued)
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 6

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	82010	0.71	0.4214808	0.55	0.03	71.4	0.4214808	9.61	-0.240343	14.51	-0.224624	4.44	-0.196166
42	82010	0.66	0.4085875	0.52	0.07	66.1	0.4085875	8.93	-0.218413	19.09	-0.219203	5.82	-0.191684
43	82010	0.74	0.4366184	0.58	0.06	74.3	0.4366184	5.5	-0.245995	9.5	-0.22158	10.64	-0.225645
44	82010	0.75	0.5230767	0.7	0.06	7.94	-0.265329	74.69	0.5230767	9.5	-0.288519	7.81	-0.264206
45	82010	0.62	0.4478345	0.56	0.15	8.34	-0.300746	9.32	-0.265407	61.74	0.4478345	20.44	-0.141475
46	82010	0.4	0.202481	0.25	0.04	9.4	-0.109428	40	0.202481	35.83	-0.018803	14.73	-0.164335
47	82010	0.67	0.3408635	0.44	0.07	66.85	0.3408635	18.58	-0.181971	7.45	-0.163089	7.05	-0.182611
48	82010	0.86	0.3136637	0.49	0.03	1.67	-0.16762	4.36	-0.108754	7.74	-0.240923	86.19	0.3136637
49	82010	0.74	0.5560939	0.74	0.07	6.9	-0.259686	11.82	-0.320425	6.96	-0.289342	74.24	0.5560939
50	82010	0.74	0.353623	0.47	0.03	11.71	-0.196776	73.92	0.353623	7.52	-0.201796	6.82	-0.153539
51	82010	0.51	0.5097627	0.63	0.05	32.64	-0.44253	8.18	-0.160591	8.3	-0.011875	50.82	0.5097627
52	82010	0.65	0.5211723	0.66	0.07	12.89	-0.287212	65.06	0.5211723	17.83	-0.301581	4.16	-0.183721
53	82010	0.73	0.4164172	0.55	0.07	13.07	-0.277283	73.24	0.4164172	8.76	-0.205343	4.86	-0.151856
54	82010	0.76	0.5756429	0.78	0.01	5.53	-0.214252	75.93	0.5756429	16.54	-0.466633	1.99	-0.169822
55	82010	0.52	0.3048997	0.38	0.05	9.93	-0.226051	51.96	0.3048997	25.13	-0.127695	12.94	-0.087332
56	82010	0.58	0.4772371	0.59	0.06	24.6	-0.198456	11.39	-0.312272	5.56	-0.22017	58.39	0.4772371
57	82010	0.38	0.4169326	0.52	0.05	19.05	-0.163696	24.61	-0.25388	17.8	-0.076334	38.5	0.4169326
58	82010	0.7	0.5037111	0.66	0.04	70.43	0.5037111	14.7	-0.271111	10.61	-0.305769	4.23	-0.196881
59	82010	0.75	0.449086	0.61	0.05	4.7	-0.189652	8.58	-0.23534	75.37	0.449086	11.29	-0.275725
60	82010	0.45	0.3363061	0.42	0.04	23.07	-0.204963	27.86	-0.10262	45.27	0.3363061	3.75	-0.18426
61	82010	0.37	0.1561428	0.2	0.07	20.32	-0.048975	37.26	0.1561428	15.19	-0.159149	27.16	0.0030217
62	82010	0.81	0.3140461	0.45	0.05	3.91	-0.184718	5.33	-0.198327	9.95	-0.144693	80.77	0.3140461
63	82010	0.66	0.4762915	0.61	0.05	11.68	-0.23185	12.98	-0.229818	9.35	-0.253803	65.93	0.4762915
64	82010	0.67	0.4597902	0.59	0.06	11.77	-0.259814	12.34	-0.226691	8.45	-0.205464	67.39	0.4597902
65	82010	0.74	0.5512713	0.73	0.08	73.73	0.5512713	10.65	-0.293082	9.91	-0.303272	5.62	-0.266111
66	82010	0.66	0.5085841	0.65	0.06	17.36	-0.323889	8.46	-0.242131	65.87	0.5085841	8.26	-0.18517
67	82010	0.42	0.3975558	0.5	0.06	41.56	0.3975558	3.21	-0.183559	5.75	-0.18031	49.42	-0.243133
68	82010	0.62	0.5525539	0.69	0.12	15.28	-0.287831	12.53	-0.282517	10.35	-0.233821	61.71	0.5525539

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.5
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 7

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81499	0.53	0.3887561	0.48	0.13	18.39	-0.267647	15.07	-0.2299	53.12	0.3887561	13.29	-0.023405
2	81499	0.81	0.3135517	0.45	0.02	81.09	0.3135517	12.05	-0.195693	1.75	-0.148423	5.09	-0.179985
3	81499	0.54	0.3794123	0.47	0.1	8.22	-0.120867	54.02	0.3794123	17.69	-0.21406	19.97	-0.185387
4	81499	0.57	0.3230719	0.4	0.15	8.41	-0.202332	13.71	-0.173013	21.21	-0.108524	56.53	0.3230719
5	81499	0.47	0.2488717	0.31	0.12	21.95	-0.142264	47.33	0.2488717	19.1	-0.093382	11.5	-0.089712
6	81499	0.62	0.4986926	0.62	0.07	27.03	-0.323785	61.64	0.4986926	6.2	-0.17947	5.05	-0.252539
7	81499	0.79	0.3903095	0.55	0.06	79.48	0.3903095	2.5	-0.192966	3.62	-0.202996	14.34	-0.255084
8	81499	0.77	0.4766764	0.66	0.02	77.46	0.4766764	2.35	-0.208052	8.77	-0.275231	11.4	-0.282399
9	81499	0.9	0.3144473	0.53	0.03	2.27	-0.175319	3.76	-0.178597	90.04	0.3144473	3.9	-0.17534
10	81499	0.81	0.3066496	0.44	0.04	9.27	-0.129697	6.23	-0.203408	3.36	-0.184095	81.1	0.3066496
11	81499	0.78	0.4260185	0.59	0.04	5.23	-0.224347	7.72	-0.274244	9.03	-0.185841	77.98	0.4260185
12	81499	0.62	0.5112038	0.64	0.07	61.69	0.5112038	7.78	-0.226063	11.26	-0.255087	19.2	-0.272202
13	81499	0.7	0.4493512	0.58	0.04	9.4	-0.30121	6.53	-0.274543	70.25	0.4493512	13.78	-0.143891
14	81499	0.59	0.4229173	0.53	0.04	27.64	-0.260947	59.35	0.4229173	4.72	-0.218978	8.24	-0.161927
15	81499	0.71	0.4578669	0.6	0.06	9.41	-0.246377	70.87	0.4578669	10.98	-0.247156	8.69	-0.208437
16	81499	0.84	0.4709479	0.69	0.05	9.34	-0.335738	4.85	-0.223049	83.63	0.4709479	2.12	-0.196921
17	81499	0.4	0.3565783	0.45	0.05	29.32	-0.06363	18.07	-0.189357	12.58	-0.219677	39.99	0.3565783
18	81499	0.74	0.4951766	0.66	0.04	9.28	-0.297554	8.14	-0.266515	74.35	0.4951766	8.2	-0.207532
19	81499	0.54	0.5335002	0.66	0.07	18.04	-0.248767	14.6	-0.17392	13.45	-0.318891	53.84	0.5335002
20	81499	0.86	0.3886154	0.61	0.05	3.37	-0.257042	4.55	-0.243183	86.36	0.3886154	5.68	-0.156211
21	81499	0.72	0.4786224	0.63	0.07	11.76	-0.270309	72.38	0.4786224	8.74	-0.238034	7.05	-0.232489
22	81499	0.56	0.5426351	0.67	0.15	56.18	0.5426351	9.78	-0.251488	14.59	-0.273455	19.31	-0.247778
23	81499	0.84	0.4297944	0.64	0.02	83.95	0.4297944	10.72	-0.23802	1.79	-0.211716	3.52	-0.303822
24	81499	0.89	0.4153162	0.68	0.03	4.53	-0.244853	3.48	-0.194666	88.66	0.4153162	3.3	-0.251542
25	81499	0.72	0.4643666	0.61	0.03	6.3	-0.27916	11.88	-0.198419	9.91	-0.256597	71.87	0.4643666
26	81499	0.68	0.5176693	0.66	0.07	68.39	0.5176693	14.64	-0.276031	9.49	-0.262476	7.41	-0.252028
27	81499	0.66	0.3843436	0.49	0.04	8.12	-0.207567	9.82	-0.240084	66.24	0.3843436	15.78	-0.146857
28	81499	0.8	0.4265588	0.6	0.03	9.34	-0.187062	5.21	-0.260483	5.41	-0.257126	80.01	0.4265588
29	81499	0.54	0.3723958	0.46	0.09	7.63	-0.102984	54.41	0.3723958	25.45	-0.233692	12.41	-0.170614
30	81499	0.67	0.5336825	0.68	0.07	5.02	-0.165494	66.83	0.5336825	13.12	-0.327553	14.96	-0.292635
31	81499	0.62	0.3849208	0.48	0.1	17.61	-0.129465	62.11	0.3849208	10.12	-0.246444	10.05	-0.209304
32	81499	0.84	0.3792084	0.57	0.02	3.84	-0.265882	3.99	-0.247618	84.09	0.3792084	8.06	-0.14352
33	81499	0.84	0.5181345	0.78	0.05	5.02	-0.291051	5.22	-0.2897	5.32	-0.266493	84.38	0.5181345
34	81499	0.71	0.5204681	0.68	0.08	5.98	-0.256027	11.44	-0.332211	70.62	0.5204681	11.89	-0.217625
35	81499	0.75	0.4669291	0.63	0.03	74.81	0.4669291	11.5	-0.187004	9.52	-0.324071	4.13	-0.240289
36	81499	0.58	0.4923861	0.61	0.02	10.06	-0.285031	14.75	-0.163211	16.91	-0.264544	58.25	0.4923861
37	81499	0.45	0.3961913	0.49	0.07	22.23	-0.284818	16.81	-0.142591	44.7	0.3961913	16.19	-0.068413
38	81499	0.6	0.4360575	0.54	0.04	7.17	-0.271099	27.52	-0.197836	59.91	0.4360575	5.36	-0.245752
39	81499	0.66	0.437939	0.56	0.07	11.22	-0.199273	12.36	-0.205304	65.74	0.437939	10.61	-0.250814
40	81499	0.79	0.447435	0.62	0.04	6.02	-0.279452	78.7	0.447435	8.76	-0.234225	6.49	-0.204611

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.5 (continued)
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 7

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	81499	0.63	0.183454	0.23	0.06	63.21	0.183454	5.93	-0.229833	5.4	-0.22206	25.41	0.0367988
42	81499	0.39	0.2340086	0.29	0.09	27.82	-0.106871	39.46	0.2340086	16.77	-0.145351	15.86	-0.033298
43	81499	0.42	0.2770976	0.35	0.08	24.35	-0.137117	19.64	-0.167899	41.72	0.2770976	14.21	-0.031689
44	81499	0.34	0.3562255	0.45	0.07	28.65	-0.163067	29.31	-0.119271	34.11	0.3562255	7.86	-0.151733
45	81499	0.68	0.5066949	0.65	0.07	67.8	0.5066949	5.34	-0.261455	9.53	-0.261386	17.26	-0.267368
46	81499	0.38	0.0501261	0.06	0.14	9.46	-0.101862	18.08	-0.043851	37.57	0.0501261	34.75	0.0470887
47	81499	0.52	0.3107222	0.38	0.1	30.17	-0.232115	9.69	-0.187238	52.42	0.3107222	7.62	0.0257122
48	81499	0.82	0.354963	0.51	0.02	4.95	-0.23722	6.1	-0.198697	7.19	-0.147354	81.74	0.354963
49	81499	0.64	0.5210033	0.66	0.04	24.07	-0.309215	5.04	-0.258649	64.24	0.5210033	6.61	-0.244961
50	81499	0.7	0.4281313	0.56	0.08	70.04	0.4281313	11.12	-0.173466	11.31	-0.260472	7.46	-0.224321
51	81499	0.51	0.3502913	0.43	0.02	5.45	-0.23741	37.37	-0.144472	51.49	0.3502913	5.66	-0.221779
52	81499	0.75	0.5016565	0.67	0.04	7.38	-0.283327	74.63	0.5016565	7.68	-0.225291	10.28	-0.277031
53	81499	0.88	0.4722117	0.75	0.02	87.65	0.4722117	4.39	-0.265719	4.98	-0.278871	2.96	-0.236882
54	81499	0.78	0.4531326	0.62	0.02	77.64	0.4531326	5.45	-0.223142	8.32	-0.210681	8.56	-0.285451
55	81499	0.86	0.526085	0.8	0.06	6.72	-0.342007	85.51	0.526085	4.91	-0.279645	2.81	-0.235151
56	81499	0.8	0.2842098	0.4	0.04	5.74	-0.169016	80.2	0.2842098	11.94	-0.149744	2.07	-0.177343
57	81499	0.67	0.5099594	0.65	0.01	4.69	-0.305426	10.24	-0.147924	67.12	0.5099594	17.94	-0.339084
58	81499	0.57	0.4044821	0.5	0.03	6.87	-0.269566	15.29	-0.349809	56.68	0.4044821	21.13	-0.015482
59	81499	0.41	0.2984906	0.37	0.07	27.7	-0.233045	40.56	0.2984906	11.29	-0.141732	20.38	0.0064543
60	81499	0.72	0.4226415	0.55	0.03	8.85	-0.277014	71.89	0.4226415	7.61	-0.305119	11.62	-0.094724
61	81499	0.64	0.517781	0.65	0.03	13.75	-0.202427	63.82	0.517781	7.43	-0.247594	14.97	-0.319786
62	81499	0.91	0.3561048	0.61	0.03	2.11	-0.220073	2.42	-0.200001	4.73	-0.192472	90.7	0.3561048
63	81499	0.58	0.571684	0.71	0.06	18.55	-0.302662	15.45	-0.262027	7.78	-0.25971	58.17	0.571684
64	81499	0.68	0.4411495	0.57	0.05	6.04	-0.22409	68.18	0.4411495	15.08	-0.224873	10.65	-0.231863
65	81499	0.33	0.4351449	0.56	0.06	21.02	-0.21842	20.74	-0.190763	25.26	-0.087795	32.93	0.4351449
66	81499	0.61	0.3963517	0.5	0.04	19.33	-0.268505	60.81	0.3963517	14.4	-0.144055	5.42	-0.162632
67	81499	0.62	0.3863559	0.49	0.04	62.03	0.3863559	8.61	-0.274016	21.71	-0.138867	7.61	-0.201125
68	81499	0.62	0.4430454	0.56	0.05	11.56	-0.123304	61.98	0.4430454	14.73	-0.234018	11.68	-0.288377

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.6
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 8

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	79957	0.91	0.3811155	0.68	0.02	2.71	-0.184561	91.31	0.3811155	3.76	-0.25241	2.2	-0.199472
2	79957	0.69	0.4264868	0.55	0.09	4.59	-0.177047	18.58	-0.234907	69.07	0.4264868	7.68	-0.25748
3	79957	0.77	0.4229162	0.58	0.03	76.77	0.4229162	8.99	-0.262791	6.87	-0.182793	7.34	-0.218977
4	79957	0.48	0.464966	0.57	0.07	7.87	-0.167799	17.4	-0.276738	26.29	-0.186739	48.37	0.464966
5	79957	0.75	0.4562324	0.62	0.06	75.39	0.4562324	7.06	-0.266922	6.12	-0.233021	11.38	-0.227184
6	79957	0.46	0.4064473	0.5	0.12	19.21	-0.328913	30.95	-0.137382	46.09	0.4064473	3.62	-0.050496
7	79957	0.7	0.4579845	0.59	0.08	15.45	-0.237692	69.54	0.4579845	9.56	-0.260675	5.37	-0.213115
8	79957	0.59	0.4885986	0.61	0.07	3.99	-0.212131	59.15	0.4885986	30.03	-0.392035	6.76	-0.075053
9	79957	0.53	0.4420151	0.55	0.1	15.52	-0.14733	15.52	-0.303545	53.12	0.4420151	15.74	-0.157099
10	79957	0.54	0.3682117	0.46	0.02	18.03	-0.129231	10.45	-0.236588	54.31	0.3682117	17.18	-0.162599
11	79957	0.73	0.5661576	0.74	0.06	72.63	0.5661576	10.91	-0.32711	10.12	-0.30464	6.28	-0.240589
12	79957	0.75	0.3951695	0.53	0.04	6.03	-0.207305	5.35	-0.23275	75.17	0.3951695	13.42	-0.202213
13	79957	0.71	0.3461348	0.45	0.08	6.17	-0.170836	70.59	0.3461348	19.21	-0.2007	3.95	-0.192015
14	79957	0.58	0.453357	0.56	0.03	20.76	-0.16101	12.06	-0.279282	9.37	-0.232104	57.79	0.453357
15	79957	0.72	0.4557813	0.6	0.07	9.73	-0.22614	71.85	0.4557813	13.24	-0.264911	5.1	-0.218063
16	79957	0.71	0.4359336	0.57	0.04	9.03	-0.127016	70.92	0.4359336	8.52	-0.282424	11.49	-0.259102
17	79957	0.54	0.3449355	0.43	0.04	21.55	-0.285298	54.43	0.3449355	19.62	-0.043471	4.36	-0.182139
18	79957	0.33	0.2654887	0.34	0.06	27.16	-0.066939	13.18	-0.21141	26.88	-0.052481	32.72	0.2654887
19	79957	0.52	0.5129896	0.63	0.06	24	-0.347013	14.11	-0.168676	10.3	-0.162504	51.54	0.5129896
20	79957	0.58	0.4255342	0.53	0.09	15.23	-0.184695	58.13	0.4255342	14.26	-0.223909	12.29	-0.198485
21	79957	0.74	0.4848887	0.65	0.04	9.87	-0.311712	9.18	-0.245806	74.15	0.4848887	6.75	-0.192089
22	79957	0.85	0.4265377	0.65	0.09	4.68	-0.239242	4.9	-0.230283	5.26	-0.230173	85.07	0.4265377
23	79957	0.64	0.4323435	0.55	0.04	13.46	-0.247049	64.34	0.4323435	15.23	-0.192953	6.93	-0.210171
24	79957	0.68	0.3330966	0.43	0.07	8.03	-0.142518	6.1	-0.165913	67.52	0.3330966	18.28	-0.200388
25	79957	0.77	0.4149318	0.57	0.01	2.47	-0.204552	7	-0.230087	76.82	0.4149318	13.69	-0.246025
26	79957	0.69	0.3448094	0.44	0.07	15	-0.041946	10.1	-0.26845	6.2	-0.265453	68.64	0.3448094
27	79957	0.66	0.3727894	0.48	0.03	4.15	-0.197419	12.39	-0.146077	66.41	0.3727894	17.01	-0.235529
28	79957	0.83	0.3188506	0.47	0.01	4.1	-0.23589	83.46	0.3188506	9.11	-0.111007	3.31	-0.221725
29	79957	0.65	0.4566606	0.58	0.05	9.12	-0.111492	64.59	0.4566606	16.15	-0.237801	10.1	-0.327618
30	79957	0.67	0.5628354	0.72	0.06	6.08	-0.246719	12.93	-0.283799	13.45	-0.320455	67.49	0.5628354
31	79957	0.42	0.3681634	0.46	0.02	26.54	-0.092424	20.54	-0.170066	42.29	0.3681634	10.62	-0.234908
32	79957	0.39	0.3182597	0.4	0.07	34.04	-0.120694	10.21	-0.197835	16.56	-0.102834	39.13	0.3182597
33	79957	0.87	0.4204531	0.65	0.02	4.44	-0.19838	86.69	0.4204531	5.57	-0.269786	3.28	-0.224503
34	79957	0.7	0.3424448	0.45	0.03	5.55	-0.213001	70.09	0.3424448	18.16	-0.182793	6.17	-0.155903
35	79957	0.85	0.4443631	0.68	0.02	85.19	0.4443631	6.46	-0.292843	5.53	-0.215913	2.8	-0.220646
36	79957	0.58	0.3822109	0.48	0.04	9.06	-0.155012	17.6	-0.137351	57.73	0.3822109	15.57	-0.253637
37	79957	0.4	0.2685942	0.34	0.09	16.47	-0.130801	39.91	0.2685942	20.41	-0.226004	23.12	0.0192131
38	79957	0.73	0.4839806	0.64	0.05	3.01	-0.203451	8.58	-0.212392	72.64	0.4839806	15.71	-0.333453
39	79957	0.59	0.4117056	0.51	0.02	6.63	-0.198417	21.4	-0.129828	58.78	0.4117056	13.17	-0.295808
40	79957	0.76	0.4658629	0.63	0.04	9.4	-0.288538	10.43	-0.260522	76.44	0.4658629	3.69	-0.178966

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.6 (continued)
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT Grade 8

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	79957	0.3	0.3367007	0.44	0.05	49.37	-0.194345	9.15	-0.226998	30.31	0.3367007	11.12	0.0250368
42	79957	0.75	0.3832335	0.52	0.03	75.14	0.3832335	10.32	-0.200337	6.57	-0.210907	7.95	-0.193662
43	79957	0.46	0.3771307	0.47	0.05	10.92	-0.212809	11.2	-0.226182	31.48	-0.108363	46.35	0.3771307
44	79957	0.75	0.2592904	0.35	0.03	5.76	-0.089074	7.66	-0.19987	11.49	-0.119874	75.06	0.2592904
45	79957	0.73	0.4327539	0.58	0.03	12.22	-0.229862	9.11	-0.249466	73.37	0.4327539	5.26	-0.197589
46	79957	0.67	0.5033042	0.64	0.08	66.58	0.5033042	13.23	-0.239882	11.09	-0.305074	9.02	-0.209996
47	79957	0.59	0.3397293	0.42	0.28	9.58	-0.169049	20.85	-0.195769	59.42	0.3397293	9.87	-0.124861
48	79957	0.9	0.378493	0.65	0.03	90.42	0.378493	1.48	-0.169166	2.03	-0.235086	6.04	-0.242006
49	79957	0.71	0.3906408	0.51	0.04	1.81	-0.185282	24.83	-0.29468	2.75	-0.158622	70.58	0.3906408
50	79957	0.39	0.2239656	0.28	0.03	42.97	0.0371729	38.84	0.2239656	8.92	-0.217738	9.24	-0.226124
51	79957	0.62	0.4724382	0.59	0.04	20.95	-0.289553	9.02	-0.191984	7.61	-0.211061	62.38	0.4724382
52	79957	0.68	0.3887574	0.5	0.06	5.62	-0.22259	9.26	-0.256754	67.53	0.3887574	17.53	-0.147895
53	79957	0.64	0.4128262	0.52	0.03	11.51	-0.187611	16.44	-0.23769	64.17	0.4128262	7.85	-0.18563
54	79957	0.67	0.4841356	0.62	0.02	6.24	-0.247427	15.36	-0.3292	11.06	-0.154558	67.31	0.4841356
55	79957	0.35	0.3571484	0.45	0.09	17.16	-0.217004	23.11	-0.109345	24.27	-0.099868	35.36	0.3571484
56	79957	0.69	0.5032417	0.65	0.03	68.78	0.5032417	10.21	-0.183401	6.05	-0.217103	14.93	-0.353091
57	79957	0.79	0.3770077	0.53	0.03	5.1	-0.233193	79.32	0.3770077	4.5	-0.235644	11.06	-0.167318
58	79957	0.42	0.4218606	0.52	0.04	14.99	-0.164748	25.83	-0.304126	41.79	0.4218606	17.35	-0.04258
59	79957	0.53	0.4270004	0.53	0.09	52.72	0.4270004	12.83	-0.193328	14.79	-0.243322	19.57	-0.156425
60	79957	0.59	0.4158961	0.52	0.05	12.39	-0.14849	11.31	-0.194586	59.48	0.4158961	16.76	-0.250448
61	79957	0.64	0.3213477	0.41	0.05	8.54	-0.202594	8.67	-0.220754	19.01	-0.091	63.74	0.3213477
62	79957	0.78	0.5079851	0.7	0.03	4.46	-0.209823	77.66	0.5079851	10.93	-0.321617	6.91	-0.267228
63	79957	0.5	0.3098846	0.38	0.04	16.06	-0.183505	30.49	-0.137168	50.37	0.3098846	3.03	-0.142179
64	79957	0.75	0.2463632	0.33	0.04	3.62	-0.188802	16.24	-0.083447	75.24	0.2463632	4.86	-0.187121
65	79957	0.74	0.4236685	0.57	0.03	4.67	-0.211333	74.07	0.4236685	13.62	-0.260011	7.61	-0.195412
66	79957	0.43	0.2796822	0.35	0.07	42.73	0.2796822	18.98	-0.041402	31.83	-0.184496	6.38	-0.147927
67	79957	0.62	0.4062368	0.51	0.03	61.83	0.4062368	20.69	-0.147753	11.3	-0.257556	6.15	-0.232747
68	79957	0.4	0.3575078	0.45	0.06	36.7	-0.185382	39.52	0.3575078	14.06	-0.125161	9.66	-0.14184

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.7
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT High School

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	76841	0.71	0.417532	0.53	0.05	12.33	-0.246059	8.73	-0.275329	71.35	0.417532	7.54	-0.095083
2	76841	0.62	0.5066329	0.62	0.08	22.61	-0.358696	61.94	0.5066329	8.98	-0.272614	6.39	-0.025525
3	76841	0.57	0.3242437	0.4	0.27	8.81	-0.118679	14.38	-0.193275	56.91	0.3242437	19.63	-0.135884
4	76841	0.66	0.3338291	0.42	0.28	8.09	-0.085071	12.04	-0.16196	13.99	-0.225177	65.6	0.3338291
5	76841	0.72	0.3483419	0.44	0.11	11.91	-0.184866	72.08	0.3483419	13.36	-0.195347	2.54	-0.164765
6	76841	0.6	0.2728657	0.34	0.03	18.68	-0.083601	7.21	-0.212413	60.44	0.2728657	13.63	-0.117814
7	76841	0.76	0.3317874	0.43	0.08	75.93	0.3317874	5.88	-0.180184	13.41	-0.188267	4.69	-0.157769
8	76841	0.58	0.2736617	0.34	0.07	6.91	-0.169221	21.93	-0.187472	57.98	0.2736617	13.09	-0.033446
9	76841	0.54	0.4008985	0.5	0.08	27.25	-0.254276	10.18	-0.161549	54.39	0.4008985	8.09	-0.110727
10	76841	0.8	0.4079392	0.55	0.12	9.5	-0.227868	4.63	-0.210067	5.59	-0.215277	80.16	0.4079392
11	76841	0.88	0.4134319	0.6	0.07	88.02	0.4134319	5.73	-0.25706	3.69	-0.233751	2.49	-0.183341
12	76841	0.75	0.5091699	0.64	0.04	6.35	-0.281121	10.28	-0.307929	75.21	0.5091699	8.11	-0.184363
13	76841	0.81	0.3194407	0.44	0.05	81.11	0.3194407	4.81	-0.184556	9.98	-0.173267	4.05	-0.162129
14	76841	0.79	0.3387564	0.46	0.06	5.85	-0.137268	10.87	-0.213063	3.82	-0.189457	79.4	0.3387564
15	76841	0.72	0.5108158	0.64	0.07	72.38	0.5108158	7.5	-0.263379	7.52	-0.222032	12.53	-0.280242
16	76841	0.71	0.4030761	0.51	0.07	7.48	-0.214488	12.23	-0.232304	71.3	0.4030761	8.92	-0.159104
17	76841	0.33	0.2702022	0.36	0.1	11.01	-0.136348	21.87	-0.091569	33.52	-0.088556	33.5	0.2702022
18	76841	0.31	0.2109382	0.28	0.2	36.18	0.0595725	30.57	0.2109382	23.77	-0.185004	9.28	-0.138787
19	76841	0.75	0.4213059	0.54	0.05	74.97	0.4213059	6.54	-0.184709	5.18	-0.228575	13.26	-0.241979
20	76841	0.82	0.2391827	0.34	0.03	3.21	-0.167591	8.37	-0.140205	6.61	-0.090778	81.79	0.2391827
21	76841	0.77	0.432864	0.56	0.05	4.55	-0.209877	10.89	-0.297256	77.24	0.432864	7.26	-0.155964
22	76841	0.24	0.2176258	0.31	0.08	34.63	-0.184679	19.23	-0.07926	23.98	0.2176258	22.08	0.0783031
23	76841	0.38	0.1125051	0.14	0.12	12.36	0.0538567	12.8	-0.163938	38.26	0.1125051	36.45	-0.029874
24	76841	0.4	0.2552274	0.33	0.16	23.11	-0.134117	40.33	0.2552274	20.3	-0.167338	16.1	0.0129462
25	76841	0.84	0.4335542	0.6	0.06	8.33	-0.238247	4.15	-0.243228	84.06	0.4335542	3.4	-0.230056
26	76841	0.71	0.416376	0.52	0.09	13.6	-0.168861	71.13	0.416376	10.46	-0.26052	4.72	-0.212725
27	76841	0.52	0.3580628	0.44	0.11	17.47	-0.194956	51.71	0.3580628	20.52	-0.16308	10.19	-0.104655
28	76841	0.42	0.3398408	0.43	0.08	23.19	-0.091427	42.14	0.3398408	20.3	-0.231765	14.29	-0.076869
29	76841	0.61	0.3938098	0.49	0.17	8.61	-0.19456	19.06	-0.222811	60.51	0.3938098	11.64	-0.1366
30	76841	0.6	0.453969	0.56	0.12	14.56	-0.219782	60.24	0.453969	18.53	-0.223822	6.55	-0.195527
31	76841	0.51	0.3119388	0.39	0.07	11.68	-0.156955	27.82	-0.135572	51.35	0.3119388	9.08	-0.134119
32	76841	0.7	0.4309372	0.54	0.07	15.65	-0.216787	8.18	-0.252885	70.25	0.4309372	5.85	-0.183856
33	76841	0.74	0.51868	0.64	0.08	8.51	-0.232783	74.07	0.51868	11.4	-0.320738	5.93	-0.221109
34	76841	0.66	0.3920886	0.49	0.04	65.72	0.3920886	21.21	-0.18329	7.69	-0.246469	5.34	-0.172869
35	76841	0.53	0.3937939	0.49	0.06	53.05	0.3937939	13.41	-0.21886	24.3	-0.145176	9.17	-0.172405
36	76841	0.73	0.5150088	0.64	0.11	5.08	-0.227069	8.84	-0.250014	13.35	-0.293491	72.62	0.5150088
37	76841	0.55	0.3520696	0.43	0.24	7.75	-0.196062	25.44	-0.231576	54.89	0.3520696	11.68	-0.046709
38	76841	0.64	0.490244	0.6	0.08	23.19	-0.235039	64.31	0.490244	6.35	-0.262611	6.07	-0.243192
39	76841	0.4	0.2912928	0.37	0.25	20.11	-0.159518	26.83	-0.057994	39.88	0.2912928	12.93	-0.139537
40	76841	0.56	0.3837962	0.47	0.09	12.7	-0.224714	55.62	0.3837962	22.66	-0.144379	8.94	-0.161882

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.7 (continued)
Spring 2012 AIMS Classical Item Analysis
Mathematics CRT High School

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	76841	0.58	0.2939008	0.37	0.11	6.59	-0.227846	29.84	-0.086835	58.31	0.2939008	5.16	-0.19273
42	76841	0.7	0.4244433	0.53	0.05	8.95	-0.276314	5.65	-0.229595	69.98	0.4244433	15.36	-0.153402
43	76841	0.13	0.266792	0.46	0.11	18.72	-0.154204	5.22	-0.216994	62.8	0.06548	13.15	0.266792
44	76841	0.47	0.3637496	0.46	0.18	8.93	-0.190684	15.73	-0.216439	46.52	0.3637496	28.64	-0.082954
45	76841	0.75	0.3939157	0.51	0.15	6.84	-0.117449	5.32	-0.204034	12.6	-0.274872	75.08	0.3939157
46	76841	0.45	0.3602205	0.45	0.24	29.51	-0.150597	17.45	-0.166605	44.78	0.3602205	8.02	-0.147348
47	76841	0.85	0.3846158	0.54	0.03	2.74	-0.199295	10.11	-0.258203	2.31	-0.175686	84.81	0.3846158
48	76841	0.58	0.3314051	0.41	0.08	58.18	0.3314051	19.92	-0.191596	9.1	-0.236697	12.72	-0.037963
49	76841	0.86	0.3585149	0.52	0.06	2.9	-0.183019	85.89	0.3585149	7.18	-0.223018	3.97	-0.179482
50	76841	0.61	0.323787	0.4	0.1	61.15	0.323787	7.88	-0.207134	23.19	-0.10729	7.67	-0.185512
51	76841	0.48	0.4414379	0.55	0.1	39.9	-0.268849	8.14	-0.181194	47.84	0.4414379	4.02	-0.151196
52	76841	0.35	0.2278595	0.3	0.34	17.46	-0.085867	34.99	0.2278595	30.76	-0.065123	16.45	-0.115404
53	76841	0.43	0.3798383	0.48	0.41	43.02	0.3798383	18.43	-0.206689	19.21	-0.187313	18.93	-0.061871
54	76841	0.87	0.3061416	0.47	0.1	4.41	-0.195184	86.93	0.3061416	5.16	-0.146149	3.41	-0.165057
55	76841	0.49	0.5772995	0.72	0.08	12.27	-0.271361	13.95	-0.245791	24.93	-0.212875	48.77	0.5772995
56	76841	0.55	0.4201631	0.52	0.07	16.15	-0.171742	13.25	-0.197729	15.07	-0.195031	55.45	0.4201631
57	76841	0.82	0.4093093	0.56	0.06	4.29	-0.214435	8.66	-0.219409	4.87	-0.227028	82.11	0.4093093
58	76841	0.51	0.3784658	0.47	0.11	12.3	-0.19701	50.75	0.3784658	22.14	-0.131398	14.7	-0.170694
59	76841	0.48	0.2417488	0.3	0.07	20.25	-0.166488	8.45	-0.181167	48.32	0.2417488	22.91	0.0034241
60	76841	0.79	0.5233244	0.68	0.07	7.24	-0.217009	78.96	0.5233244	7.39	-0.318432	6.33	-0.280407
61	76841	0.7	0.4351517	0.54	0.1	70.07	0.4351517	17	-0.260187	7.11	-0.206572	5.71	-0.1843
62	76841	0.75	0.4813664	0.6	0.03	6.86	-0.285877	74.72	0.4813664	5.09	-0.237496	13.29	-0.22841
63	76841	0.56	0.3215058	0.4	0.09	15.74	-0.124669	12.2	-0.247834	55.88	0.3215058	16.09	-0.071381
64	76841	0.54	0.3545381	0.44	0.2	10.34	-0.195627	54.5	0.3545381	26.93	-0.143953	8.03	-0.167198
65	76841	0.61	0.3963197	0.49	0.11	4.27	-0.242463	5.78	-0.262982	28.56	-0.153924	61.27	0.3963197
66	76841	0.48	0.4442885	0.56	0.11	48.44	0.4442885	7.4	-0.200191	7.55	-0.24463	36.5	-0.1924
67	76841	0.61	0.4050231	0.5	0.28	61.21	0.4050231	17.1	-0.204846	15.17	-0.205596	6.24	-0.165056
68	76841	0.59	0.3120318	0.39	0.1	18.91	-0.158983	59.35	0.3120318	17.86	-0.11814	3.78	-0.204858
69	76841	0.43	0.1584096	0.2	0.15	31.64	0.0327961	14.84	-0.132964	42.94	0.1584096	10.43	-0.139175
70	76841	0.5	0.3460611	0.43	0.15	50.49	0.3460611	22.19	-0.145388	19.3	-0.161695	7.87	-0.154531
71	76841	0.65	0.4042709	0.5	0.14	64.91	0.4042709	20.91	-0.179058	9.02	-0.208512	5.03	-0.238416
72	76841	0.71	0.4078976	0.51	0.09	11.92	-0.125149	8.09	-0.246856	8.98	-0.24677	70.91	0.4078976
73	76841	0.47	0.3704763	0.46	0.28	11.46	-0.197994	15.51	-0.169164	47.46	0.3704763	25.29	-0.120928
74	76841	0.7	0.4461158	0.55	0.13	10.18	-0.230523	8.1	-0.22382	11.39	-0.208104	70.2	0.4461158
75	76841	0.65	0.4110636	0.51	0.13	64.86	0.4110636	18.55	-0.193881	12.32	-0.226768	4.14	-0.20619
76	76841	0.38	0.2374289	0.3	0.35	16.11	-0.153484	38.37	0.2374289	39.1	-0.017464	6.07	-0.184478
77	76841	0.7	0.4818225	0.6	0.1	7.75	-0.230055	11.38	-0.259699	10.93	-0.222189	69.83	0.4818225
78	76841	0.74	0.5141429	0.64	0.07	73.57	0.5141429	10.83	-0.292738	10.48	-0.278005	5.06	-0.195289
79	76841	0.46	0.3396588	0.43	0.29	16.22	-0.163043	23.84	-0.104546	45.78	0.3396588	13.87	-0.166365
80	76841	0.77	0.4880559	0.62	0.1	10.31	-0.252666	76.81	0.4880559	7.83	-0.270159	4.95	-0.234393
81	76841	0.81	0.4071541	0.55	0.1	5.59	-0.230012	80.9	0.4071541	5.58	-0.257644	7.82	-0.167929
82	76841	0.63	0.4479916	0.55	0.13	8.19	-0.221491	10.23	-0.170009	18.87	-0.249012	62.59	0.4479916
83	76841	0.33	0.1024907	0.13	0.12	24.38	0.0396496	32.52	0.1024907	28.38	-0.049088	14.6	-0.115423
84	76841	0.43	0.2917098	0.37	0.09	26.51	-0.054726	19.61	-0.135153	43.25	0.2917098	10.55	-0.193217
85	76841	0.65	0.4656496	0.58	0.1	65.31	0.4656496	12.02	-0.228321	14.16	-0.237671	8.42	-0.210111

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.8
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 3

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82876	0.78	0.4595929	0.64	0.06	6.35	-0.248735	9.88	-0.245709	5.26	-0.245484	78.45	0.4595929
2	82876	0.89	0.4333716	0.71	0.14	5.17	-0.283741	88.97	0.4333716	4.61	-0.249925	1.12	-0.188191
3	82876	0.73	0.4965458	0.65	0.22	14.58	-0.351327	6.64	-0.211936	73.03	0.4965458	5.53	-0.188098
4	82876	0.91	0.3560026	0.61	0.11	90.64	0.3560026	3.84	-0.245316	4.25	-0.177631	1.16	-0.188251
5	82876	0.75	0.4472564	0.6	0.32	8.63	-0.237312	8.89	-0.283965	7.23	-0.175657	74.93	0.4472564
6	82876	0.46	0.3392148	0.42	0.24	23.4	-0.090447	20.6	-0.159308	9.81	-0.222516	45.94	0.3392148
7	82876	0.9	0.4747408	0.79	0.38	89.86	0.4747408	2.04	-0.192641	1.63	-0.236903	6.08	-0.349731
8	82876	0.82	0.3262028	0.47	0.23	81.95	0.3262028	0.93	-0.151017	9.61	-0.166692	7.29	-0.235555
9	82876	0.7	0.2984885	0.39	0.43	2.57	-0.199157	70.18	0.2984885	3.88	-0.233401	22.95	-0.141116
10	82876	0.83	0.554125	0.81	0.6	10.06	-0.386169	83.36	0.554125	3	-0.296278	2.97	-0.215232
11	82876	0.58	0.4555367	0.56	0.39	10.19	-0.183069	18.25	-0.215692	58.02	0.4555367	13.15	-0.253316
12	82876	0.57	0.3289698	0.41	0.53	30.38	-0.08935	6.84	-0.292229	56.85	0.3289698	5.41	-0.210413
13	82876	0.77	0.3569247	0.48	0.05	9.47	-0.287008	76.55	0.3569247	3.01	-0.193895	10.92	-0.108883
14	82876	0.67	0.0759361	0.1	0.19	3.34	-0.212614	20.13	0.152719	9.46	-0.200571	66.88	0.0759361
15	82876	0.68	0.4424594	0.57	0.11	68.08	0.4424594	8.51	-0.26458	13.38	-0.175575	9.91	-0.242376
16	82876	0.62	0.4312616	0.54	0.29	6.21	-0.249902	10.02	-0.226322	61.86	0.4312616	21.63	-0.196228
17	82876	0.8	0.4904896	0.69	0.85	6.08	-0.345093	9.43	-0.22566	80.43	0.4904896	3.21	-0.242787
18	82876	0.83	0.4655066	0.67	1	4.05	-0.289955	5.02	-0.25412	83.32	0.4655066	6.6	-0.227405
19	82876	0.76	0.3753176	0.51	0.17	14.72	-0.231097	5	-0.17927	4.16	-0.195589	75.96	0.3753176
20	82876	0.46	0.0799288	0.1	0.21	29.03	0.0611743	46.2	0.0799288	12.79	-0.112761	11.77	-0.092842
21	82876	0.73	0.4113296	0.54	0.28	72.97	0.4113296	6.79	-0.251013	9.37	-0.200733	10.59	-0.196194
22	82876	0.63	0.5318348	0.66	0.54	12.69	-0.304965	7.36	-0.262346	63.45	0.5318348	15.97	-0.232086
23	82876	0.77	0.3876118	0.53	0.43	76.59	0.3876118	6.28	-0.196138	7.11	-0.169095	9.58	-0.244398
24	82876	0.84	0.4617953	0.68	0.49	1.82	-0.208606	84.08	0.4617953	4.01	-0.251909	9.6	-0.303661
25	82876	0.8	0.524591	0.74	0.49	6.36	-0.283933	3.48	-0.278359	80.45	0.524591	9.21	-0.296034
26	82876	0.67	0.4696994	0.6	0.66	14.54	-0.263157	67.45	0.4696994	7.1	-0.167883	10.25	-0.27293
27	82876	0.58	0.3539787	0.44	0.54	58.02	0.3539787	7.62	-0.251347	12.98	-0.190014	20.84	-0.107302
28	82876	0.6	0.3806151	0.48	0.88	15.41	-0.132131	11.53	-0.182158	60.4	0.3806151	11.78	-0.245416
29	82876	0.55	0.4262789	0.52	0.52	33.97	-0.257012	8.37	-0.189154	54.62	0.4262789	2.51	-0.240418
30	82876	0.48	0.4135658	0.51	0.91	10.05	-0.139759	29.39	-0.182707	11.77	-0.250428	47.88	0.4135658
31	82876	0.64	0.5287176	0.66	0.44	13.57	-0.30337	9.58	-0.297404	12.29	-0.186514	64.12	0.5287176
32	82876	0.94	0.4080329	0.82	0.04	1.95	-0.252221	2.07	-0.2225	94.19	0.4080329	1.75	-0.218059
33	82876	0.83	0.478094	0.7	0.09	7.24	-0.303083	7.14	-0.254793	2.29	-0.227505	83.24	0.478094
34	82876	0.89	0.3903373	0.64	0.19	89.08	0.3903373	1.99	-0.217655	6.3	-0.233549	2.44	-0.218203
35	82876	0.52	0.4050121	0.5	0.16	14.81	-0.37705	18.26	-0.076551	14.96	-0.108579	51.81	0.4050121
36	82876	0.74	0.3278646	0.44	0.14	5.81	-0.158905	73.56	0.3278646	4.88	-0.164862	15.61	-0.197344
37	82876	0.77	0.4262179	0.58	0.23	9.13	-0.241122	76.79	0.4262179	7.01	-0.262457	6.85	-0.169576
38	82876	0.71	0.4197918	0.55	0.16	8.59	-0.270783	71.16	0.4197918	2.85	-0.234611	17.25	-0.198327
39	82876	0.38	0.2406677	0.3	0.35	28.05	-0.045477	19.67	-0.137861	14.23	-0.118318	37.69	0.2406677
40	82876	0.67	0.3821179	0.49	0.83	15.94	-0.262596	66.81	0.3821179	6.1	-0.192563	10.32	-0.119332

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.8 (continued)
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 3

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	82876	0.76	0.3672565	0.5	1.1	76.43	0.3672565	10.22	-0.214844	2.86	-0.205744	9.41	-0.184301
42	82876	0.47	0.4354375	0.53	0.14	16.46	-0.226298	21.21	-0.274026	46.69	0.4354375	15.51	-0.058642
43	82876	0.42	0.2852881	0.36	0.2	24.85	-0.109428	21.77	-0.096451	11.3	-0.169198	41.87	0.2852881
44	82876	0.47	0.3129693	0.39	0.37	21.13	-0.078815	7.55	-0.243153	47.12	0.3129693	23.83	-0.139884
45	82876	0.81	0.363733	0.52	0.12	11.68	-0.182853	81.04	0.363733	1.24	-0.187664	5.92	-0.265767
46	82876	0.6	0.3775325	0.47	0.51	13.73	-0.057469	12.34	-0.179256	13.08	-0.312308	60.34	0.3775325
47	82876	0.66	0.5024467	0.64	0.16	17.11	-0.29234	66.4	0.5024467	8.23	-0.260975	8.11	-0.202191
48	82876	0.64	0.3676482	0.46	0.27	25.87	-0.134712	4.63	-0.275085	64.44	0.3676482	4.79	-0.275247
49	82876	0.43	0.2676734	0.33	0.08	10	-0.215397	7.4	-0.169864	43.32	0.2676734	39.2	-0.048175
50	82876	0.51	0.3765474	0.46	0.12	21.71	-0.157131	19.44	-0.207242	51.34	0.3765474	7.4	-0.157859
51	82876	0.59	0.4257691	0.53	0.2	59.32	0.4257691	17.99	-0.106404	12.37	-0.29278	10.12	-0.237559
52	82876	0.71	0.5655995	0.73	0.14	71.38	0.5655995	8.98	-0.271055	10.31	-0.335063	9.19	-0.262483
53	82876	0.61	0.4836256	0.6	0.35	17.56	-0.248495	10.23	-0.17088	11.31	-0.282489	60.54	0.4836256
54	82876	0.65	0.5111863	0.64	0.27	65.06	0.5111863	11.33	-0.255486	10.56	-0.268106	12.78	-0.238998

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.9
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 4

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81933	0.87	0.3013445	0.47	0.02	86.55	0.3013445	1.35	-0.189703	5.79	-0.21072	6.29	-0.130301
2	81933	0.62	0.3611686	0.45	0.03	62.27	0.3611686	2.24	-0.204166	29.56	-0.233413	5.91	-0.162528
3	81933	0.71	0.4215396	0.55	0.04	19.37	-0.280664	70.84	0.4215396	6.32	-0.182828	3.43	-0.198381
4	81933	0.75	0.3497078	0.47	0.04	20.49	-0.249131	2.23	-0.182858	75.46	0.3497078	1.77	-0.173047
5	81933	0.5	0.4314984	0.53	0.04	50.46	0.4314984	16.28	-0.357761	10.3	-0.143003	22.93	-0.095557
6	81933	0.52	0.2933987	0.36	0.04	29.41	-0.060478	51.57	0.2933987	9.11	-0.154074	9.87	-0.250419
7	81933	0.86	0.4120217	0.63	0.05	2.52	-0.214497	8.04	-0.251756	85.58	0.4120217	3.82	-0.221728
8	81933	0.72	0.4861987	0.64	0.07	8.35	-0.247044	13.56	-0.272349	5.86	-0.239046	72.16	0.4861987
9	81933	0.59	0.2751317	0.34	0.03	13.61	-0.123111	20.56	-0.036462	6.92	-0.308911	58.88	0.2751317
10	81933	0.62	0.4288675	0.54	0.05	14.13	-0.231656	13.93	-0.144058	62.34	0.4288675	9.56	-0.262449
11	81933	0.71	0.4758587	0.62	0.07	5.89	-0.242826	70.63	0.4758587	18.69	-0.27515	4.73	-0.245768
12	81933	0.63	0.3669459	0.46	0.05	19.58	-0.127844	4.47	-0.28333	12.76	-0.202795	63.13	0.3669459
13	81933	0.57	0.4576522	0.56	0.08	26.91	-0.229876	56.69	0.4576522	12.09	-0.267938	4.23	-0.185633
14	81933	0.75	0.5242828	0.7	0.08	74.83	0.5242828	8.65	-0.303535	10.62	-0.263217	5.82	-0.25992
15	81933	0.54	0.3919011	0.48	0.13	27.56	-0.114768	6.09	-0.322919	12.29	-0.203166	53.93	0.3919011
16	81933	0.71	0.430757	0.56	0.2	71.18	0.430757	7.41	-0.262381	12.46	-0.127827	8.75	-0.296205
17	81933	0.68	0.477961	0.61	0.09	13.82	-0.276344	10.38	-0.196656	68.23	0.477961	7.48	-0.254606
18	81933	0.61	0.262109	0.33	0.03	28.11	-0.021344	4.51	-0.261228	60.9	0.262109	6.45	-0.260727
19	81933	0.77	0.4383417	0.6	0.05	5.25	-0.258138	13.68	-0.221065	4.09	-0.257474	76.94	0.4383417
20	81933	0.5	0.1676352	0.21	0.06	10.32	-0.22564	4.61	-0.233234	50.31	0.1676352	34.7	0.0709296
21	81933	0.73	0.3367939	0.44	0.06	17.19	-0.180292	5.95	-0.163879	72.85	0.3367939	3.95	-0.220074
22	81933	0.5	0.2315431	0.29	0.06	7.01	-0.244752	7.45	-0.224132	49.52	0.2315431	35.96	0.011664
23	81933	0.67	0.4688527	0.6	0.11	67.23	0.4688527	16.33	-0.27908	4.13	-0.246723	12.2	-0.206538
24	81933	0.59	0.3552869	0.44	0.02	3.2	-0.25665	4.92	-0.24203	32.64	-0.164353	59.22	0.3552869
25	81933	0.84	0.5047067	0.75	0.05	9.58	-0.354671	84.12	0.5047067	3.71	-0.245616	2.54	-0.21236
26	81933	0.8	0.5449052	0.76	0.08	79.74	0.5449052	7.74	-0.254067	5.88	-0.31219	6.55	-0.31241
27	81933	0.68	0.4688516	0.6	0.05	13.13	-0.322198	14.25	-0.150255	4.54	-0.2749	68.03	0.4688516
28	81933	0.72	0.462581	0.61	0.08	15.47	-0.178052	5.14	-0.314055	6.82	-0.288077	72.49	0.462581
29	81933	0.28	0.2140765	0.28	0.07	52.35	-0.016205	12.49	-0.088641	27.64	0.2140765	7.45	-0.222189
30	81933	0.6	0.5052249	0.63	0.04	14.32	-0.270879	18.93	-0.241462	6.43	-0.235205	60.29	0.5052249
31	81933	0.54	0.321468	0.4	0.06	9.37	-0.098177	32.86	-0.177221	53.81	0.321468	3.9	-0.249864
32	81933	0.77	0.4614573	0.62	0.07	13.07	-0.215231	76.65	0.4614573	6.18	-0.292088	4.04	-0.265017
33	81933	0.61	0.525841	0.65	0.08	19.26	-0.32051	10	-0.242156	9.65	-0.194041	61.02	0.525841
34	81933	0.42	0.2011658	0.25	0.1	37.92	0.0101873	42.36	0.2011658	13.7	-0.13873	5.93	-0.239712
35	81933	0.66	0.5250099	0.66	0.02	7.92	-0.34019	66.09	0.5250099	19.08	-0.319701	6.89	-0.122455
36	81933	0.86	0.4106201	0.63	0.04	85.82	0.4106201	6.53	-0.198851	4.83	-0.258604	2.79	-0.234083
37	81933	0.67	0.5470277	0.69	0.05	9.19	-0.252331	10.64	-0.258622	13.31	-0.308627	66.82	0.5470277
38	81933	0.66	0.4599542	0.58	0.06	23.62	-0.27269	5.65	-0.219232	4.44	-0.247449	66.23	0.4599542
39	81933	0.77	0.4203566	0.57	0.07	6.49	-0.240028	10.92	-0.208963	77.18	0.4203566	5.35	-0.230837
40	81933	0.69	0.4160896	0.54	0.08	69.23	0.4160896	14.68	-0.176278	4.91	-0.221685	11.09	-0.259737

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.9 (continued)
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 4

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	81933	0.67	0.4014853	0.51	0.04	5.95	-0.25967	9.26	-0.217258	66.63	0.4014853	18.12	-0.168329
42	81933	0.7	0.3407126	0.44	0.06	15.58	-0.158929	70	0.3407126	7.5	-0.211832	6.86	-0.168525
43	81933	0.72	0.4227157	0.55	0.08	11.81	-0.220929	5.23	-0.283147	11.27	-0.177344	71.61	0.4227157
44	81933	0.9	0.4323211	0.72	0.08	3.83	-0.242822	3.18	-0.23601	89.69	0.4323211	3.22	-0.243552
45	81933	0.85	0.3181546	0.48	0.05	85.05	0.3181546	3.92	-0.272958	8.04	-0.073071	2.93	-0.239599
46	81933	0.9	0.4873223	0.81	0.05	89.82	0.4873223	3.47	-0.244869	3.86	-0.293598	2.81	-0.276708
47	81933	0.89	0.4894022	0.82	0.04	3.78	-0.302118	89.46	0.4894022	4.15	-0.27135	2.57	-0.241984
48	81933	0.8	0.4994968	0.7	0.08	5.81	-0.318301	11.83	-0.286954	80.12	0.4994968	2.17	-0.219278
49	81933	0.92	0.458387	0.83	0.07	92.07	0.458387	2.55	-0.249938	2.9	-0.255205	2.41	-0.268223
50	81933	0.72	0.4658998	0.61	0.06	15.15	-0.226855	7.42	-0.269167	72.09	0.4658998	5.28	-0.254628
51	81933	0.49	0.433049	0.53	0.06	17.42	-0.249235	28.35	-0.136784	49.05	0.433049	5.11	-0.273552
52	81933	0.64	0.5024855	0.63	0.12	14.36	-0.215762	8.02	-0.305048	13.41	-0.241566	64.1	0.5024855
53	81933	0.63	0.3924921	0.49	0.07	62.75	0.3924921	14.61	-0.170077	10.98	-0.265748	11.59	-0.145238
54	81933	0.67	0.414875	0.53	0.16	67.22	0.414875	12.77	-0.185965	14.6	-0.192938	5.26	-0.287963

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.10
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 5

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82382	0.88	0.4062449	0.66	0.02	6.23	-0.292603	3.82	-0.196483	1.76	-0.17279	88.17	0.4062449
2	82382	0.5	0.3004391	0.37	0.02	11.51	-0.130315	33.13	-0.154073	50.17	0.3004391	5.17	-0.163075
3	82382	0.78	0.4174433	0.58	0.08	6.12	-0.249098	78.46	0.4174433	8.92	-0.197656	6.42	-0.225692
4	82382	0.86	0.4969824	0.77	0.04	4	-0.248593	86.2	0.4969824	4.78	-0.257089	4.98	-0.310915
5	82382	0.5	0.3130671	0.39	0.05	11.98	-0.108671	28.03	-0.096546	50.07	0.3130671	9.87	-0.261045
6	82382	0.78	0.2884668	0.4	0.03	6.47	-0.132805	8.93	-0.152642	78.14	0.2884668	6.44	-0.175106
7	82382	0.64	0.3455841	0.44	0.06	10.02	-0.285438	64.48	0.3455841	17.56	-0.097609	7.89	-0.157583
8	82382	0.64	0.4700255	0.59	0.08	64.24	0.4700255	10.88	-0.258307	10.85	-0.252565	13.94	-0.190919
9	82382	0.71	0.5322032	0.69	0.08	12.56	-0.298258	6.6	-0.271651	9.28	-0.25431	71.49	0.5322032
10	82382	0.69	0.374091	0.48	0.06	69.15	0.374091	17.43	-0.144154	5.73	-0.228002	7.63	-0.244797
11	82382	0.8	0.4001091	0.56	0.07	3.89	-0.18985	79.8	0.4001091	6.9	-0.325879	9.34	-0.141285
12	82382	0.66	0.2953124	0.38	0.06	66	0.2953124	13.81	-0.091708	9.21	-0.221714	10.92	-0.141269
13	82382	0.61	0.4466534	0.56	0.07	23.14	-0.178019	61	0.4466534	7.46	-0.304239	8.32	-0.227075
14	82382	0.67	0.273392	0.35	0.12	3.69	-0.284147	15.49	-0.118611	13.91	-0.092784	66.79	0.273392
15	82382	0.75	0.5260955	0.7	0.08	6.91	-0.306621	74.8	0.5260955	10.26	-0.262052	7.96	-0.261939
16	82382	0.6	0.4131594	0.51	0.1	22.91	-0.184788	11.78	-0.199987	59.67	0.4131594	5.53	-0.264311
17	82382	0.89	0.5033024	0.82	0.08	2.72	-0.264356	88.93	0.5033024	4.51	-0.293586	3.76	-0.281163
18	82382	0.63	0.3876947	0.49	0.03	9.01	-0.331166	4.63	-0.280998	23.32	-0.078729	63.01	0.3876947
19	82382	0.81	0.4660906	0.66	0.02	11.66	-0.306135	81.11	0.4660906	3.34	-0.195859	3.87	-0.253636
20	82382	0.47	0.252963	0.31	0.04	47.39	0.252963	4.18	-0.224877	43.6	-0.057085	4.78	-0.248282
21	82382	0.76	0.4538808	0.61	0.04	10.93	-0.180893	5.15	-0.289994	75.58	0.4538808	8.31	-0.269489
22	82382	0.65	0.3982535	0.5	0.05	7.05	-0.290193	65.4	0.3982535	9.58	-0.211653	17.92	-0.13762
23	82382	0.4	0.3030516	0.38	0.05	23.17	-0.24388	10.55	-0.244957	40	0.3030516	26.22	0.067515
24	82382	0.68	0.3878402	0.5	0.04	68.2	0.3878402	11.8	-0.206695	7.33	-0.264394	12.64	-0.135337
25	82382	0.77	0.4715759	0.64	0.06	76.52	0.4715759	6.59	-0.299487	9.93	-0.314517	6.89	-0.123562
26	82382	0.74	0.5239378	0.69	0.08	4.63	-0.280004	17.62	-0.337443	74.05	0.5239378	3.62	-0.224965
27	82382	0.57	0.3734737	0.46	0.06	56.63	0.3734737	14.76	-0.177486	12.08	-0.253734	16.48	-0.10616
28	82382	0.78	0.5070783	0.69	0.02	6.64	-0.31765	8.03	-0.22958	7.46	-0.262652	77.85	0.5070783
29	82382	0.62	0.345314	0.43	0.02	26.29	-0.13174	4.76	-0.22706	62.32	0.345314	6.61	-0.245331
30	82382	0.63	0.180981	0.23	0.05	17.76	0.0370765	63.41	0.180981	15.51	-0.195996	3.26	-0.170812
31	82382	0.74	0.4068983	0.54	0.03	74.36	0.4068983	4.91	-0.284604	12.66	-0.189506	8.05	-0.195273
32	82382	0.83	0.4272282	0.62	0.05	10.97	-0.219819	82.58	0.4272282	2.7	-0.225097	3.71	-0.30006
33	82382	0.54	0.2017269	0.25	0.07	10.52	-0.124719	12.34	-0.058792	53.97	0.2017269	23.1	-0.101791
34	82382	0.61	0.3134261	0.39	0.02	12.87	-0.119514	60.65	0.3134261	5.31	-0.22096	21.15	-0.155564
35	82382	0.5	0.2768781	0.34	0.04	19.51	-0.17107	10.07	-0.217281	50.46	0.2768781	19.91	-0.013096
36	82382	0.89	0.3823104	0.64	0.04	5.87	-0.235265	2.19	-0.230093	89.49	0.3823104	2.41	-0.183075
37	82382	0.83	0.4573764	0.67	0.05	8.9	-0.246956	3.48	-0.256841	4.12	-0.263481	83.45	0.4573764
38	82382	0.73	0.4890655	0.65	0.04	11.57	-0.248501	73.46	0.4890655	2.75	-0.23525	12.18	-0.299249
39	82382	0.62	0.3249934	0.41	0.05	62.24	0.3249934	17.14	-0.187654	9.62	-0.195783	10.95	-0.092996
40	82382	0.81	0.5111097	0.73	0.05	10.1	-0.271629	5.11	-0.323719	81.17	0.5111097	3.57	-0.250449

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.10 (continued)
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 5

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	82382	0.43	0.2093572	0.26	0.02	26.43	-0.009629	22.12	-0.060197	43.49	0.2093572	7.93	-0.275877
42	82382	0.85	0.4263919	0.64	0.03	8.86	-0.220231	2.98	-0.259671	3.57	-0.254494	84.57	0.4263919
43	82382	0.79	0.4208072	0.59	0.07	12.41	-0.207709	3.02	-0.264072	79.07	0.4208072	5.43	-0.252748
44	82382	0.95	0.3590483	0.76	0.04	95.11	0.3590483	1.89	-0.228645	1.62	-0.191822	1.35	-0.189372
45	82382	0.76	0.4640567	0.62	0.08	12.15	-0.22439	5.33	-0.288547	75.97	0.4640567	6.46	-0.243496
46	82382	0.53	0.4535194	0.56	0.05	10.92	-0.293739	7.61	-0.281239	28.22	-0.133361	53.19	0.4535194
47	82382	0.64	0.4527318	0.57	0.06	64.49	0.4527318	7.26	-0.251406	6.26	-0.295406	21.93	-0.192704
48	82382	0.45	0.2410648	0.3	0.07	44.5	0.2410648	24.63	-0.055238	21.1	-0.068104	9.7	-0.230367
49	82382	0.74	0.5382789	0.71	0.05	6.63	-0.271812	73.64	0.5382789	8.86	-0.266233	10.83	-0.30169
50	82382	0.74	0.5308563	0.7	0.02	5.5	-0.35082	15.27	-0.296919	5.09	-0.207758	74.12	0.5308563
51	82382	0.7	0.5373811	0.69	0.04	14.72	-0.311555	9.57	-0.219549	5.17	-0.316089	70.5	0.5373811
52	82382	0.61	0.4080092	0.51	0.06	10.09	-0.254702	9.01	-0.226633	20.02	-0.143641	60.82	0.4080092
53	82382	0.37	0.2990536	0.38	0.05	30.04	-0.037713	5.89	-0.286016	36.72	0.2990536	27.3	-0.133624
54	82382	0.41	0.2140941	0.27	0.1	34.88	0.0780981	40.94	0.2140941	10.23	-0.23594	13.86	-0.205354

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Table 6.3.11
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 6

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82056	0.87	0.4049848	0.64	0.02	4.83	-0.194019	3.49	-0.251615	87.31	0.4049848	4.36	-0.230087
2	82056	0.57	0.3059462	0.38	0.06	28.03	-0.086127	56.66	0.3059462	4.59	-0.237339	10.65	-0.204911
3	82056	0.97	0.2744909	0.65	0.03	1.46	-0.187187	0.51	-0.112792	96.7	0.2744909	1.3	-0.16187
4	82056	0.57	0.2932254	0.36	0.03	57.36	0.2932254	15.67	-0.118219	15.12	-0.146967	11.83	-0.152882
5	82056	0.87	0.4839103	0.75	0.03	4.38	-0.258748	4.27	-0.284039	86.59	0.4839103	4.73	-0.256076
6	82056	0.9	0.5061709	0.84	0.04	3.33	-0.280668	4.37	-0.295987	89.63	0.5061709	2.63	-0.269813
7	82056	0.91	0.4752331	0.81	0.04	90.67	0.4752331	4.16	-0.267324	2.88	-0.295628	2.24	-0.236905
8	82056	0.44	0.2062851	0.26	0.06	20.04	-0.126891	19.1	0.0004324	44.32	0.2062851	16.48	-0.139693
9	82056	0.67	0.3529294	0.45	0.06	24.42	-0.179965	6.16	-0.227899	66.58	0.3529294	2.78	-0.208521
10	82056	0.68	0.5177137	0.66	0.05	10.24	-0.231841	8.63	-0.270013	12.63	-0.28397	68.44	0.5177137
11	82056	0.62	0.4189439	0.52	0.09	12.26	-0.297486	11.02	-0.205936	62.27	0.4189439	14.36	-0.116516
12	82056	0.84	0.4707631	0.71	0.11	84.48	0.4707631	3.49	-0.199654	8.34	-0.333399	3.58	-0.221391
13	82056	0.88	0.4859663	0.77	0.01	3.01	-0.26071	4.15	-0.253774	87.81	0.4859663	5.02	-0.292073
14	82056	0.68	0.3236908	0.42	0.04	5.48	-0.197662	68.09	0.3236908	23.86	-0.171568	2.53	-0.208081
15	82056	0.8	0.4600346	0.65	0.02	4.93	-0.230277	80.35	0.4600346	12.88	-0.313055	1.81	-0.209689
16	82056	0.71	0.501354	0.65	0.04	13.72	-0.307691	70.71	0.501354	7.4	-0.234666	8.13	-0.2223
17	82056	0.77	0.513126	0.69	0.04	9.29	-0.256161	10.4	-0.348183	3.39	-0.196403	76.88	0.513126
18	82056	0.79	0.4555043	0.64	0.03	4.25	-0.278197	4.27	-0.284183	12.14	-0.216888	79.32	0.4555043
19	82056	0.72	0.5207638	0.68	0.04	13.08	-0.342527	4.78	-0.215082	72.2	0.5207638	9.91	-0.240447
20	82056	0.75	0.457421	0.61	0.04	5.26	-0.223219	75.33	0.457421	14.75	-0.270137	4.61	-0.245157
21	82056	0.5	0.3174567	0.39	0.03	18.99	-0.249238	50.11	0.3174567	7.7	-0.238667	23.16	0.0063906
22	82056	0.68	0.3929311	0.5	0.05	16.17	-0.24466	67.71	0.3929311	9.19	-0.172144	6.88	-0.173136
23	82056	0.58	0.210268	0.26	0.06	58.04	0.210268	9.97	-0.218627	11.38	-0.140458	20.56	0.0157408
24	82056	0.69	0.2149255	0.28	0.04	18.82	-0.021948	6.74	-0.220782	5.78	-0.153179	68.61	0.2149255
25	82056	0.9	0.471352	0.8	0.07	3.33	-0.275521	3.48	-0.272194	90.15	0.471352	2.98	-0.239665
26	82056	0.61	0.4748233	0.59	0.05	24.07	-0.268819	5.39	-0.284505	9.14	-0.180328	61.35	0.4748233
27	82056	0.75	0.5196384	0.7	0.04	5.74	-0.270167	14.95	-0.296998	3.79	-0.286216	75.48	0.5196384
28	82056	0.62	0.3787383	0.47	0.05	12.06	-0.184091	15.19	-0.12042	62.01	0.3787383	10.69	-0.260762
29	82056	0.57	0.3136821	0.39	0.18	17.81	-0.057078	13.98	-0.164993	56.96	0.3136821	11.07	-0.242505
30	82056	0.72	0.4700452	0.61	0.03	71.79	0.4700452	6.83	-0.28365	11.49	-0.283384	9.87	-0.166118
31	82056	0.53	0.3599078	0.44	0.06	14.16	-0.273972	13.83	-0.10927	52.85	0.3599078	19.1	-0.117952
32	82056	0.77	0.540681	0.73	0.07	9.87	-0.288212	76.64	0.540681	8.32	-0.307464	5.09	-0.261998
33	82056	0.66	0.4665942	0.59	0.09	13.25	-0.232363	10.7	-0.235425	9.96	-0.231396	66	0.4665942
34	82056	0.31	0.1449592	0.19	0.02	30.42	0.0389642	30.77	-0.096898	30.6	0.1449592	8.18	-0.146035
35	82056	0.62	0.5229245	0.65	0.03	61.68	0.5229245	15.43	-0.231488	11.73	-0.282883	11.14	-0.252791
36	82056	0.57	0.4486807	0.55	0.03	24.83	-0.260789	8.61	-0.275266	56.59	0.4486807	9.93	-0.108445
37	82056	0.41	0.3212149	0.4	0.07	12.93	-0.200699	41.3	0.3212149	13.18	-0.213001	32.53	-0.039959
38	82056	0.69	0.4225946	0.54	0.06	68.97	0.4225946	9.77	-0.305537	9.35	-0.276543	11.85	-0.074652
39	82056	0.7	0.4419049	0.57	0.08	12.13	-0.288507	70.03	0.4419049	11.21	-0.172034	6.55	-0.217431
40	82056	0.8	0.5137574	0.71	0.01	8.33	-0.27442	79.67	0.5137574	6.01	-0.254437	5.99	-0.296906

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.11 (continued)
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 6

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	82056	0.61	0.3439932	0.43	0.04	13.29	-0.147805	13.29	-0.175802	61.14	0.3439932	12.24	-0.176237
42	82056	0.72	0.3783392	0.5	0.05	10.84	-0.264044	10.21	-0.129936	6.59	-0.192462	72.31	0.3783392
43	82056	0.62	0.3165304	0.4	0.04	12.9	-0.148822	18.04	-0.12334	62.37	0.3165304	6.65	-0.22466
44	82056	0.71	0.2726089	0.36	0.02	3.09	-0.273458	71.18	0.2726089	2.97	-0.221858	22.75	-0.091813
45	82056	0.85	0.4372288	0.67	0.04	85.36	0.4372288	5.84	-0.259368	4.62	-0.255755	4.15	-0.20017
46	82056	0.51	0.2310635	0.29	0.03	51.43	0.2310635	7.69	-0.236362	23.11	-0.127519	17.74	0.0033308
47	82056	0.25	0.1220002	0.16	0.05	7.5	-0.265865	54.51	0.0783334	12.51	-0.066721	25.43	0.1220002
48	82056	0.76	0.3805906	0.51	0.05	9.2	-0.24602	7.12	-0.191503	75.66	0.3805906	7.97	-0.158174
49	82056	0.68	0.343013	0.44	0.02	67.73	0.343013	9.92	-0.195824	9.51	-0.195283	12.82	-0.133099
50	82056	0.67	0.3536058	0.45	0.06	18.37	-0.153372	5.06	-0.287211	66.64	0.3536058	9.87	-0.148465
51	82056	0.52	0.3911086	0.48	0.06	25.08	-0.205877	52.02	0.3911086	8.68	-0.204259	14.16	-0.139366
52	82056	0.59	0.4075091	0.51	0.06	14.11	-0.236329	14.97	-0.209916	59.22	0.4075091	11.64	-0.134101
53	82056	0.43	0.2261258	0.28	0.08	42.69	0.2261258	36.06	-0.068195	17.66	-0.082742	3.52	-0.257972
54	82056	0.89	0.4427777	0.72	0.15	3.47	-0.258868	4.21	-0.253339	3.5	-0.224518	88.67	0.4427777

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.12
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 7

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81528	0.9	0.4170198	0.69	0.02	7.27	-0.31961	2.14	-0.209112	89.52	0.4170198	1.05	-0.14117
2	81528	0.7	0.1255692	0.16	0.04	70.03	0.1255692	17.63	0.0145234	5.14	-0.159517	7.15	-0.107847
3	81528	0.9	0.3475582	0.6	0.01	3.21	-0.157977	90.38	0.3475582	4.4	-0.183963	2	-0.263301
4	81528	0.75	0.3745447	0.5	0.06	74.65	0.3745447	7.58	-0.229795	10.63	-0.158195	7.08	-0.207469
5	81528	0.83	0.3538363	0.52	0.06	5.08	-0.204322	83.31	0.3538363	9.42	-0.216482	2.13	-0.163761
6	81528	0.73	0.26407	0.35	0.01	4.61	-0.213347	2.19	-0.200339	73.47	0.26407	19.71	-0.106828
7	81528	0.82	0.323584	0.47	0.02	13.46	-0.21363	2.78	-0.163158	1.56	-0.193936	82.18	0.323584
8	81528	0.46	0.2899497	0.36	0.06	46.02	0.2899497	8.82	-0.228339	18.46	-0.082415	26.64	-0.10803
9	81528	0.85	0.4791604	0.73	0.03	6.13	-0.329424	85.34	0.4791604	4.45	-0.267442	4.05	-0.178353
10	81528	0.73	0.4126103	0.54	0.03	8.9	-0.206826	4.8	-0.203318	72.52	0.4126103	13.74	-0.237412
11	81528	0.56	0.4720705	0.58	0.05	13.28	-0.164376	14.09	-0.307023	16.78	-0.192074	55.8	0.4720705
12	81528	0.67	0.4338038	0.55	0.04	9.42	-0.245461	9.12	-0.292539	67.19	0.4338038	14.23	-0.13649
13	81528	0.82	0.3429423	0.49	0.02	14.8	-0.219902	81.59	0.3429423	1.78	-0.216603	1.8	-0.196098
14	81528	0.52	0.2933298	0.36	0.05	19.41	-0.062197	51.95	0.2933298	10.17	-0.209461	18.42	-0.151191
15	81528	0.69	0.3246662	0.42	0.04	16.25	-0.211092	68.87	0.3246662	3.17	-0.228929	11.68	-0.10057
16	81528	0.71	0.3901069	0.51	0.05	8.01	-0.199179	13.52	-0.235043	70.81	0.3901069	7.61	-0.16148
17	81528	0.62	0.2198558	0.28	0.05	18.15	-0.008479	62.42	0.2198558	7.37	-0.179222	12.01	-0.173361
18	81528	0.54	0.1833411	0.23	0.05	5.98	-0.204219	17.34	-0.191374	22.86	0.0702801	53.76	0.1833411
19	81528	0.63	0.4455321	0.56	0.04	28	-0.326745	2.1	-0.225105	63.46	0.4455321	6.4	-0.144916
20	81528	0.82	0.3572854	0.52	0.05	81.98	0.3572854	2.09	-0.202659	4.52	-0.271803	11.36	-0.163021
21	81528	0.54	0.2440042	0.3	0.02	12.19	-0.196626	54.05	0.2440042	5.67	-0.195203	28.06	-0.026918
22	81528	0.81	0.4579775	0.65	0.04	80.98	0.4579775	4.08	-0.221558	5.87	-0.284409	9.02	-0.240391
23	81528	0.78	0.376399	0.52	0.03	77.8	0.376399	13.74	-0.141466	4.59	-0.256948	3.84	-0.280236
24	81528	0.72	0.2979257	0.39	0.02	72	0.2979257	8.36	-0.211458	13.82	-0.087425	5.79	-0.192719
25	81528	0.5	0.3635475	0.45	0.09	20.6	-0.227415	17.05	-0.087953	12.33	-0.172325	49.93	0.3635475
26	81528	0.84	0.3951569	0.59	0.04	4.16	-0.22731	5.27	-0.277803	84.1	0.3951569	6.43	-0.150362
27	81528	0.77	0.4686369	0.64	0.07	77.39	0.4686369	4.2	-0.288848	13.12	-0.238499	5.22	-0.257783
28	81528	0.72	0.4559955	0.6	0.03	6.82	-0.142782	17.16	-0.330013	3.61	-0.232628	72.39	0.4559955
29	81528	0.71	0.480785	0.63	0.03	3.96	-0.282641	11.09	-0.268107	13.49	-0.227826	71.43	0.480785
30	81528	0.6	0.4842379	0.6	0.05	12.89	-0.211408	17.39	-0.25506	60.23	0.4842379	9.44	-0.237344
31	81528	0.69	0.2782245	0.36	0.06	69.42	0.2782245	8.07	-0.146848	19.25	-0.151041	3.2	-0.162203
32	81528	0.63	0.4441656	0.55	0.07	14.83	-0.20708	9.94	-0.280225	62.77	0.4441656	12.39	-0.173478
33	81528	0.7	0.4475888	0.58	0.06	11.17	-0.231702	13.19	-0.234851	5.73	-0.227237	69.85	0.4475888
34	81528	0.51	0.37021	0.45	0.07	50.76	0.37021	12.26	-0.16411	28.02	-0.149835	8.89	-0.224528
35	81528	0.57	0.4880002	0.6	0.04	23.72	-0.241449	7.86	-0.207352	11.19	-0.262917	57.18	0.4880002
36	81528	0.6	0.2331282	0.29	0.19	59.77	0.2331282	12.23	-0.102214	3.83	-0.221011	23.98	-0.08965
37	81528	0.47	0.2984524	0.37	0.03	47.19	0.2984524	34.59	-0.071344	7.44	-0.267711	10.75	-0.144599
38	81528	0.26	0.2449145	0.33	0.05	60.5	0.0376577	7.06	-0.301911	6.16	-0.20306	26.24	0.2449145
39	81528	0.64	0.3471046	0.44	0.05	7.95	-0.205052	19.44	-0.175828	63.9	0.3471046	8.66	-0.14787
40	81528	0.54	0.2286537	0.28	0.06	9.77	-0.150262	54.23	0.2286537	21.61	-0.054707	14.33	-0.133446

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.12 (continued)
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 7

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	81528	0.79	0.3298112	0.46	0.02	2.81	-0.162114	13.32	-0.226235	78.53	0.3298112	5.32	-0.141264
42	81528	0.81	0.3159693	0.45	0.01	11.46	-0.098263	4.31	-0.216607	3.44	-0.270004	80.78	0.3159693
43	81528	0.74	0.3327521	0.44	0.02	10.38	-0.156452	9.44	-0.22477	73.93	0.3327521	6.23	-0.134901
44	81528	0.71	0.4018009	0.52	0.02	7.17	-0.19969	70.55	0.4018009	3.44	-0.226475	18.82	-0.231027
45	81528	0.77	0.3526575	0.48	0.03	6.75	-0.201464	77.14	0.3526575	14.48	-0.215798	1.6	-0.171593
46	81528	0.53	0.4031923	0.5	0.02	10.15	-0.32226	10.6	-0.116512	53.3	0.4031923	25.92	-0.155044
47	81528	0.64	0.3020635	0.38	0.01	63.56	0.3020635	17.55	-0.034299	15.54	-0.255886	3.33	-0.220564
48	81528	0.86	0.4641599	0.7	0.02	7.69	-0.28603	85.58	0.4641599	4.19	-0.254319	2.52	-0.228425
49	81528	0.68	0.4778845	0.61	0.04	67.64	0.4778845	10.71	-0.28939	12.19	-0.2189	9.42	-0.213578
50	81528	0.74	0.3766093	0.5	0.03	8.3	-0.214738	14.35	-0.176862	3.41	-0.242858	73.91	0.3766093
51	81528	0.84	0.4270661	0.63	0.03	3.81	-0.275158	8.49	-0.181361	3.69	-0.282619	83.98	0.4270661
52	81528	0.68	0.402771	0.51	0.03	16.28	-0.155619	9.33	-0.229847	6.66	-0.256622	67.7	0.402771
53	81528	0.84	0.4795666	0.72	0.03	7.02	-0.288017	84.36	0.4795666	3.15	-0.251251	5.44	-0.249458
54	81528	0.39	0.2973318	0.37	0.02	47.96	-0.07921	5.7	-0.218254	38.93	0.2973318	7.4	-0.209427

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Table 6.3.13
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 8

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	79960	0.57	0.2612116	0.32	0.04	16.94	-0.088112	22.3	-0.151686	3.65	-0.176379	57.07	0.2612116
2	79960	0.74	0.4164431	0.55	0.02	3.75	-0.205857	19.05	-0.298786	73.65	0.4164431	3.52	-0.146146
3	79960	0.84	0.3155209	0.47	0.04	3.29	-0.186851	10.25	-0.18337	2.28	-0.17554	84.15	0.3155209
4	79960	0.86	0.2849211	0.44	0.06	5.4	-0.110707	85.77	0.2849211	2.43	-0.185381	6.35	-0.18791
5	79960	0.92	0.2338687	0.43	0.01	3.89	-0.127678	92.15	0.2338687	2.7	-0.112441	1.25	-0.179393
6	79960	0.49	0.2195349	0.27	0.04	7.65	-0.133911	11.01	0.0104709	32.31	-0.165523	48.98	0.2195349
7	79960	0.49	0.450959	0.55	0.03	9.85	-0.233795	49.04	0.450959	2.5	-0.24535	38.58	-0.241226
8	79960	0.88	0.3741498	0.59	0.04	2.66	-0.212881	87.78	0.3741498	7.62	-0.230844	1.9	-0.196707
9	79960	0.71	0.3989506	0.52	0.03	13.64	-0.13035	3.47	-0.217799	71.38	0.3989506	11.49	-0.300076
10	79960	0.67	0.344073	0.44	0.04	13.56	-0.125241	67.17	0.344073	4.58	-0.185762	14.64	-0.225674
11	79960	0.8	0.2961388	0.42	0.07	14.08	-0.169273	4.43	-0.193229	79.92	0.2961388	1.5	-0.163321
12	79960	0.5	0.2569754	0.32	0.03	50.28	0.2569754	29.48	-0.120813	15.02	-0.114588	5.19	-0.146252
13	79960	0.77	0.3393568	0.46	0.03	6.4	-0.161207	77.15	0.3393568	8.47	-0.127477	7.95	-0.249375
14	79960	0.9	0.3880239	0.65	0.03	3.37	-0.183289	5.21	-0.273058	89.99	0.3880239	1.4	-0.191805
15	79960	0.67	0.3196378	0.41	0.04	23.59	-0.159171	6.2	-0.185616	66.53	0.3196378	3.64	-0.205264
16	79960	0.66	0.4503183	0.57	0.06	15.88	-0.174148	11.65	-0.279769	6	-0.249179	66.41	0.4503183
17	79960	0.65	0.3864956	0.49	0.05	19.03	-0.147814	8.01	-0.205252	65.03	0.3864956	7.88	-0.261661
18	79960	0.67	0.4042979	0.51	0.04	5.33	-0.2866	21.66	-0.232149	66.59	0.4042979	6.4	-0.125325
19	79960	0.75	0.3909676	0.52	0.02	4.52	-0.228079	74.69	0.3909676	9.22	-0.219501	11.54	-0.184737
20	79960	0.69	0.3356766	0.43	0.03	24.66	-0.205666	69.12	0.3356766	4.49	-0.196388	1.7	-0.198889
21	79960	0.78	0.5435498	0.74	0.02	3.78	-0.272488	7.59	-0.228385	10.65	-0.365603	77.96	0.5435498
22	79960	0.69	0.2534514	0.33	0.02	68.64	0.2534514	27.5	-0.114817	1.91	-0.233381	1.92	-0.24984
23	79960	0.86	0.3793638	0.59	0.02	7.56	-0.200617	86.39	0.3793638	4	-0.242135	2.04	-0.209221
24	79960	0.5	0.153513	0.19	0.13	5.98	-0.275004	37	0.0645168	7.15	-0.165522	49.75	0.153513
25	79960	0.61	0.3345519	0.42	0.01	8.07	-0.267152	24.69	-0.094626	61.38	0.3345519	5.85	-0.210132
26	79960	0.69	0.3614149	0.46	0.03	4.24	-0.28201	14.46	-0.181013	68.69	0.3614149	12.58	-0.141992
27	79960	0.68	0.4395059	0.56	0.02	9.02	-0.229822	68.49	0.4395059	4.46	-0.304833	18.01	-0.19618
28	79960	0.61	0.2482816	0.31	0.03	14.85	-0.119462	19.61	-0.081885	61.36	0.2482816	4.15	-0.230107
29	79960	0.67	0.4013532	0.51	0.06	21.15	-0.17966	5.38	-0.264365	6.62	-0.224807	66.79	0.4013532
30	79960	0.63	0.2454743	0.31	0.03	25.71	-0.055094	4.47	-0.241948	63.05	0.2454743	6.73	-0.177005
31	79960	0.5	0.1940122	0.24	0.05	26.38	0.0622896	12.63	-0.212905	10.98	-0.171852	49.96	0.1940122
32	79960	0.89	0.4418145	0.73	0.05	3.36	-0.274166	89.22	0.4418145	3.97	-0.236173	3.4	-0.227428
33	79960	0.79	0.4972091	0.68	0.03	7.47	-0.287449	78.58	0.4972091	7.38	-0.248703	6.54	-0.255965
34	79960	0.77	0.4708787	0.64	0.04	6.91	-0.286331	7.64	-0.255853	77.47	0.4708787	7.95	-0.207182
35	79960	0.77	0.397735	0.54	0.03	14.47	-0.174836	76.71	0.397735	6.69	-0.296368	2.1	-0.226571
36	79960	0.72	0.3848807	0.5	0.03	8.79	-0.224623	12.72	-0.128263	71.68	0.3848807	6.78	-0.266511
37	79960	0.55	0.401441	0.49	0.03	7.99	-0.274291	23.68	-0.148962	12.82	-0.184867	55.49	0.401441
38	79960	0.87	0.5180492	0.82	0.04	5.12	-0.30403	87.44	0.5180492	4.23	-0.291174	3.17	-0.261596
39	79960	0.8	0.4299259	0.61	0.01	13.35	-0.337543	80.25	0.4299259	4.65	-0.177708	1.74	-0.144614
40	79960	0.43	0.2839802	0.35	0.03	20.24	-0.069912	42.78	0.2839802	19.42	-0.182944	17.53	-0.105259

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.13 (continued)
Spring 2012 AIMS Classical Item Analysis
Reading CRT Grade 8

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	79960	0.38	0.1854282	0.23	0.05	38.46	0.1854282	15.51	-0.216711	33.49	0.0730412	12.48	-0.139824
42	79960	0.77	0.3710504	0.51	0.03	4.72	-0.17429	77.17	0.3710504	11.73	-0.238232	6.34	-0.172421
43	79960	0.65	0.3065529	0.39	0.01	9.18	-0.154295	65.48	0.3065529	14.64	-0.121515	10.69	-0.188424
44	79960	0.77	0.3571289	0.49	0.02	7.03	-0.126374	77.32	0.3571289	4.56	-0.24398	11.07	-0.211277
45	79960	0.66	0.3409425	0.43	0.05	10.84	-0.248882	66.1	0.3409425	20.17	-0.113301	2.85	-0.231433
46	79960	0.78	0.4567254	0.63	0.04	3.88	-0.272698	4.05	-0.270398	78.39	0.4567254	13.63	-0.238452
47	79960	0.73	0.3615422	0.48	0.04	16.07	-0.209168	72.66	0.3615422	6.77	-0.197025	4.46	-0.168278
48	79960	0.87	0.4353192	0.68	0.04	3.75	-0.279044	5.05	-0.261815	86.82	0.4353192	4.34	-0.180201
49	79960	0.7	0.4410886	0.57	0.04	14.95	-0.314051	11.49	-0.150355	70.1	0.4410886	3.42	-0.230565
50	79960	0.46	0.3515026	0.43	0.06	6.02	-0.241586	29.1	-0.091587	18.76	-0.194869	46.05	0.3515026
51	79960	0.8	0.5286521	0.73	0.03	8.03	-0.301246	7.29	-0.274242	5.11	-0.272408	79.54	0.5286521
52	79960	0.76	0.3948688	0.53	0.04	7.06	-0.287235	7.28	-0.262789	75.64	0.3948688	9.98	-0.091857
53	79960	0.62	0.4061159	0.51	0.03	19.93	-0.22261	4.63	-0.239746	13.23	-0.169951	62.17	0.4061159
54	79960	0.66	0.3823114	0.48	0.04	6.52	-0.221081	16.01	-0.18362	66.12	0.3823114	11.31	-0.186186

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.14
Spring 2012 AIMS Classical Item Analysis
Reading CRT High School

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	77276	0.66	0.24	0.30	0.05	66.49	0.24	2.27	-0.14	7.80	-0.17	23.40	-0.10
2	77276	0.77	0.34	0.44	0.05	13.06	-0.17	76.72	0.34	6.34	-0.18	3.84	-0.21
3	77276	0.86	0.35	0.49	0.07	86.02	0.35	2.96	-0.21	3.85	-0.19	7.11	-0.17
4	77276	0.89	0.39	0.59	0.03	5.06	-0.24	89.15	0.39	1.96	-0.17	3.80	-0.22
5	77276	0.78	0.37	0.48	0.06	78.17	0.37	14.33	-0.27	5.35	-0.13	2.09	-0.16
6	77276	0.95	0.40	0.67	0.04	1.60	-0.23	1.44	-0.22	2.39	-0.23	94.54	0.40
7	77276	0.67	0.30	0.38	0.04	0.89	-0.17	29.96	-0.24	66.88	0.30	2.24	-0.09
8	77276	0.84	0.37	0.51	0.11	84.05	0.37	5.39	-0.26	7.26	-0.12	3.18	-0.22
9	77276	0.48	0.44	0.54	0.06	48.03	0.44	23.96	-0.22	4.22	-0.29	23.73	-0.11
10	77276	0.88	0.43	0.62	0.02	2.27	-0.22	8.61	-0.30	1.07	-0.18	88.03	0.43
11	77276	0.60	0.34	0.42	0.07	9.35	-0.20	6.19	-0.23	59.64	0.34	24.74	-0.11
12	77276	0.51	0.35	0.43	0.21	51.29	0.35	14.65	-0.11	14.67	-0.23	19.18	-0.12
13	77276	0.58	0.45	0.55	0.04	3.67	-0.16	31.25	-0.27	57.79	0.45	7.24	-0.23
14	77276	0.40	0.01	0.01	0.10	28.01	-0.05	39.54	0.01	6.57	-0.24	25.78	0.20
15	77276	0.74	0.37	0.47	0.06	17.38	-0.17	2.90	-0.25	73.76	0.37	5.90	-0.21
16	77276	0.75	0.46	0.59	0.04	16.74	-0.28	75.08	0.46	2.73	-0.24	5.41	-0.23
17	77276	0.38	0.20	0.26	0.07	4.78	-0.21	43.07	0.04	14.46	-0.18	37.61	0.20
18	77276	0.89	0.46	0.67	0.04	3.22	-0.26	3.52	-0.29	89.02	0.46	4.19	-0.20
19	77276	0.43	0.25	0.32	0.07	51.01	-0.05	43.30	0.25	3.05	-0.28	2.57	-0.23
20	77276	0.88	0.42	0.62	0.07	2.22	-0.23	5.39	-0.32	87.87	0.42	4.46	-0.14
21	77276	0.55	0.39	0.48	0.07	8.78	-0.32	54.89	0.39	17.65	-0.13	18.62	-0.12
22	77276	0.62	0.48	0.59	0.07	15.89	-0.20	10.53	-0.23	61.66	0.48	11.85	-0.26
23	77276	0.72	0.56	0.69	0.07	5.31	-0.26	7.71	-0.30	15.33	-0.29	71.58	0.56
24	77276	0.90	0.48	0.72	0.06	2.80	-0.25	3.36	-0.28	3.87	-0.26	89.91	0.48
25	77276	0.93	0.40	0.69	0.06	1.83	-0.22	2.54	-0.25	93.35	0.40	2.22	-0.21
26	77276	0.67	0.39	0.49	0.13	9.80	-0.23	13.24	-0.22	66.86	0.39	9.97	-0.12
27	77276	0.60	0.49	0.60	0.13	13.38	-0.19	59.58	0.49	16.56	-0.29	10.35	-0.20
28	77276	0.50	0.41	0.50	0.14	10.08	-0.20	28.63	-0.18	10.68	-0.18	50.46	0.41
29	77276	0.27	0.17	0.23	0.07	26.54	0.17	64.69	-0.03	2.78	-0.21	5.93	-0.08
30	77276	0.58	0.48	0.58	0.07	17.32	-0.25	57.91	0.48	13.20	-0.18	11.50	-0.23
31	77276	0.46	0.36	0.44	0.07	16.36	-0.22	35.19	-0.14	46.41	0.36	1.96	-0.16
32	77276	0.67	0.55	0.67	0.07	15.27	-0.24	66.53	0.55	7.49	-0.28	10.65	-0.29
33	77276	0.73	0.42	0.53	0.10	4.92	-0.24	12.41	-0.23	9.81	-0.19	72.75	0.42
34	77276	0.79	0.42	0.55	0.07	78.57	0.42	4.80	-0.26	2.13	-0.23	14.43	-0.22
35	77276	0.66	0.52	0.63	0.07	7.77	-0.19	11.25	-0.28	14.77	-0.27	66.14	0.52
36	77276	0.77	0.36	0.46	0.08	13.93	-0.15	76.51	0.36	3.58	-0.29	5.91	-0.17
37	77276	0.63	0.28	0.35	0.07	26.44	-0.03	4.12	-0.29	5.89	-0.22	63.49	0.28
38	77276	0.62	0.36	0.45	0.07	9.87	-0.22	62.07	0.36	4.45	-0.28	23.53	-0.11
39	77276	0.76	0.49	0.62	0.06	6.99	-0.28	6.48	-0.29	10.75	-0.20	75.72	0.49
40	77276	0.86	0.50	0.68	0.05	4.46	-0.31	4.28	-0.26	85.66	0.50	5.56	-0.24

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.14 (continued)
Spring 2012 AIMS Classical Item Analysis
Reading CRT High School

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	77276	0.60	0.50	0.61	0.11	20.39	-0.18	13.37	-0.28	6.42	-0.26	59.71	0.50
42	77276	0.46	0.43	0.53	0.07	7.72	-0.26	31.10	-0.19	15.06	-0.14	46.05	0.43
43	77276	0.72	0.52	0.64	0.06	2.80	-0.25	18.06	-0.31	6.97	-0.25	72.10	0.52
44	77276	0.69	0.60	0.73	0.09	68.98	0.60	9.78	-0.29	15.49	-0.35	5.67	-0.24
45	77276	0.55	0.35	0.44	0.10	10.63	-0.27	20.32	-0.06	55.01	0.35	13.94	-0.17
46	77276	0.44	0.34	0.42	0.17	9.59	-0.27	43.93	0.34	22.82	-0.14	23.49	-0.05
47	77276	0.71	0.42	0.53	0.11	7.89	-0.27	7.88	-0.29	71.22	0.42	12.90	-0.10
48	77276	0.30	0.09	0.12	0.13	15.09	-0.13	29.82	0.09	16.11	-0.20	38.85	0.18
49	77276	0.65	0.41	0.50	0.12	8.41	-0.23	64.62	0.41	11.70	-0.21	15.14	-0.16
50	77276	0.48	0.25	0.31	0.18	48.47	0.25	8.22	-0.26	12.46	-0.27	30.67	0.10
51	77276	0.79	0.50	0.65	0.18	5.14	-0.27	79.08	0.50	11.53	-0.29	4.07	-0.23
52	77276	0.30	0.19	0.25	0.06	10.53	-0.19	29.86	0.19	31.39	-0.01	28.16	-0.05
53	77276	0.76	0.43	0.56	0.12	11.31	-0.20	8.80	-0.25	76.06	0.43	3.71	-0.23
54	77276	0.58	0.31	0.39	0.13	3.20	-0.21	57.96	0.31	30.95	-0.05	7.77	-0.31

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.15
Spring 2012 AIMS Classical Item Analysis
Science CRT Grade 4

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81888	0.67	0.3803528	0.48	0.03	17.84	-0.203541	6.44	-0.218319	67.06	0.3803528	8.63	-0.168062
2	81888	0.82	0.4370261	0.63	0.02	4.69	-0.243339	3.42	-0.189296	81.88	0.4370261	9.99	-0.274811
3	81888	0.81	0.334944	0.47	0.02	9.69	-0.148962	6.88	-0.209559	80.59	0.334944	2.83	-0.213222
4	81888	0.78	0.4333421	0.59	0.04	3.59	-0.220464	15.47	-0.312918	2.96	-0.149857	77.95	0.4333421
5	81888	0.7	0.3685675	0.48	0.03	15.48	-0.173187	8.47	-0.193731	5.7	-0.223195	70.32	0.3685675
6	81888	0.66	0.4151429	0.53	0.04	8.61	-0.225689	66.37	0.4151429	16.91	-0.218187	8.08	-0.187063
7	81888	0.61	0.3634904	0.45	0.03	13.74	-0.200551	10.69	-0.078702	61.45	0.3634904	14.08	-0.240067
8	81888	0.55	0.400317	0.49	0.04	21.42	-0.162196	8.83	-0.270017	55.23	0.400317	14.48	-0.158763
9	81888	0.97	0.2199989	0.56	0.04	0.86	-0.140546	0.61	-0.133298	1.36	-0.113363	97.13	0.2199989
10	81888	0.94	0.1992702	0.39	0.01	4.02	-0.087585	1.31	-0.161815	93.72	0.1992702	0.94	-0.131462
11	81888	0.74	0.3818757	0.51	0.03	5.82	-0.228182	73.75	0.3818757	7.97	-0.265569	12.43	-0.129086
12	81888	0.69	0.327472	0.42	0.04	21.1	-0.140871	5.95	-0.221455	69.21	0.327472	3.69	-0.218492
13	81888	0.75	0.3541923	0.47	0.04	9.43	-0.159691	74.84	0.3541923	7.29	-0.201086	8.4	-0.197042
14	81888	0.83	0.4228274	0.62	0.05	3.83	-0.218864	6.8	-0.214607	6.48	-0.256698	82.84	0.4228274
15	81888	0.62	0.4843461	0.6	0.07	10.29	-0.229818	13.97	-0.244717	61.77	0.4843461	13.9	-0.232916
16	81888	0.61	0.5145858	0.64	0.02	6.87	-0.269653	8.3	-0.25646	61.38	0.5145858	23.44	-0.26338
17	81888	0.63	0.4479189	0.56	0.04	15.12	-0.221532	63.03	0.4479189	14.88	-0.233224	6.94	-0.211751
18	81888	0.44	0.2238738	0.28	0.05	31.35	-0.136144	12.16	-0.0294	43.83	0.2238738	12.61	-0.115366
19	81888	0.75	0.4283229	0.57	0.04	9.61	-0.230389	7.18	-0.21439	74.76	0.4283229	8.41	-0.22592
20	81888	0.59	0.3289649	0.41	0.04	4.57	-0.234684	59.43	0.3289649	27.1	-0.088307	8.86	-0.257764
21	81888	0.48	0.4141323	0.51	0.07	7.96	-0.188784	33.69	-0.203215	47.9	0.4141323	10.38	-0.195694
22	81888	0.45	0.2418485	0.3	0.06	17.79	-0.156513	17.01	-0.113415	19.95	-0.04475	45.2	0.2418485
23	81888	0.74	0.4047839	0.54	0.04	2.58	-0.224547	74.27	0.4047839	2.99	-0.194435	20.12	-0.26968
24	81888	0.85	0.4925366	0.75	0.07	3.67	-0.235128	5.48	-0.280196	85.31	0.4925366	5.47	-0.290376
25	81888	0.67	0.514229	0.65	0.06	9.67	-0.286437	14.62	-0.207413	8.37	-0.300386	67.28	0.514229
26	81888	0.61	0.3489401	0.44	0.08	3.45	-0.250768	6.82	-0.264797	28.17	-0.127169	61.49	0.3489401
27	81888	0.56	0.2921159	0.36	0.19	5.44	-0.234887	56.07	0.2921159	7.43	-0.213085	30.88	-0.077184
28	81888	0.61	0.4430013	0.55	0.04	19.1	-0.229347	6.99	-0.278189	12.89	-0.164021	60.98	0.4430013
29	81888	0.67	0.3375623	0.43	0.04	66.52	0.3375623	16.84	-0.153474	9.11	-0.106905	7.49	-0.269891
30	81888	0.75	0.3833144	0.51	0.06	75.07	0.3833144	12.28	-0.263863	2.23	-0.144509	10.36	-0.189468
31	81888	0.91	0.3185801	0.55	0.05	5.06	-0.232244	90.65	0.3185801	2.45	-0.158728	1.8	-0.128835
32	81888	0.65	0.3973266	0.5	0.05	9.55	-0.248378	6.52	-0.251244	64.66	0.3973266	19.22	-0.139178
33	81888	0.41	0.373708	0.46	0.01	23.75	-0.085729	41.5	0.373708	21.55	-0.058298	13.19	-0.365515
34	81888	0.7	0.3866717	0.5	0.02	7.68	-0.198709	69.7	0.3866717	16.48	-0.214951	6.11	-0.187772
35	81888	0.7	0.2468376	0.32	0.05	70.05	0.2468376	7.03	-0.178926	14.58	-0.109695	8.28	-0.103524
36	81888	0.87	0.4518101	0.71	0.03	87	0.4518101	3	-0.235003	3.12	-0.254344	6.84	-0.267126
37	81888	0.6	0.3432255	0.43	0.07	15.37	-0.146493	18.46	-0.131885	6.14	-0.267057	59.97	0.3432255
38	81888	0.57	0.3119439	0.39	0.07	9.95	-0.194351	19.29	-0.093989	13.21	-0.173926	57.49	0.3119439
39	81888	0.88	0.4620659	0.73	0.05	87.56	0.4620659	5.3	-0.259859	3.71	-0.250684	3.38	-0.258051
40	81888	0.8	0.3500664	0.5	0.09	10.73	-0.232854	80.24	0.3500664	5.13	-0.163767	3.82	-0.161604

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.15 (continued)
Spring 2012 AIMS Classical Item Analysis
Science CRT Grade 4

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	81888	0.92	0.2881624	0.52	0.09	92.01	0.2881624	2.19	-0.16413	3.92	-0.154012	1.8	-0.179451
42	81888	0.75	0.4006784	0.54	0.04	12.13	-0.254963	75.14	0.4006784	9.27	-0.200424	3.41	-0.174514
43	81888	0.8	0.3096495	0.43	0.05	79.66	0.3096495	8.32	-0.193533	5.36	-0.143616	6.61	-0.155861
44	81888	0.85	0.2903651	0.44	0.07	6.76	-0.177877	84.55	0.2903651	6.42	-0.156961	2.2	-0.147374
45	81888	0.47	0.3239471	0.4	0.11	17.86	-0.132647	14.17	-0.190486	20.78	-0.109401	47.08	0.3239471
46	81888	0.79	0.4605887	0.64	0.06	7.87	-0.265106	79.13	0.4605887	7.62	-0.263033	5.32	-0.204061
47	81888	0.47	0.386897	0.48	0.1	13.66	-0.209531	13.78	-0.25665	25.45	-0.074835	47	0.386897
48	81888	0.72	0.3747657	0.49	0.05	13.34	-0.179296	72.23	0.3747657	4.89	-0.227073	9.49	-0.197205
49	81888	0.61	0.5110148	0.63	0.08	61.1	0.5110148	15.53	-0.259077	10.3	-0.2753	12.98	-0.2126
50	81888	0.58	0.4086944	0.5	0.1	20.71	-0.164869	11.82	-0.229824	57.55	0.4086944	9.83	-0.20453
51	81888	0.69	0.2232503	0.29	0.17	6.2	-0.178556	68.56	0.2232503	19.41	-0.034064	5.66	-0.203083
52	81888	0.56	0.2189124	0.27	0.08	8.67	-0.111282	56.41	0.2189124	9.62	-0.142973	25.22	-0.0807
53	81888	0.59	0.4508836	0.56	0.13	14.26	-0.143826	58.65	0.4508836	14.59	-0.297424	12.37	-0.202215
54	81888	0.74	0.5183744	0.68	0.28	73.51	0.5183744	8.46	-0.240295	7.37	-0.288657	10.38	-0.280628

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.16
Spring 2012 AIMS Classical Item Analysis
Science CRT Grade 8

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	80016	0.87	0.2500826	0.39	0.02	7.32	-0.233452	4.47	-0.022992	86.66	0.2500826	1.53	-0.158146
2	80016	0.77	0.3626028	0.49	0.03	9.9	-0.179103	6.69	-0.217332	76.81	0.3626028	6.57	-0.182321
3	80016	0.76	0.364413	0.49	0.02	1.18	-0.078683	76.21	0.364413	21.19	-0.317554	1.4	-0.143487
4	80016	0.96	0.2958531	0.69	0.01	1.17	-0.180558	96.23	0.2958531	1.44	-0.152487	1.14	-0.175439
5	80016	0.89	0.2252134	0.37	0.02	6.52	-0.159266	2.39	-0.112901	88.82	0.2252134	2.25	-0.096743
6	80016	0.9	0.3918679	0.66	0	0.43	-0.119886	0.86	-0.162455	8.82	-0.336055	89.88	0.3918679
7	80016	0.57	0.1492343	0.19	0.02	15.72	-0.087718	20.9	-0.006436	57.02	0.1492343	6.33	-0.161512
8	80016	0.88	0.3962106	0.63	0.01	2.34	-0.147716	6.85	-0.28613	87.84	0.3962106	2.95	-0.205578
9	80016	0.68	0.2585442	0.33	0.02	12.58	-0.069558	12.06	-0.219472	67.78	0.2585442	7.55	-0.099311
10	80016	0.64	0.3288803	0.41	0.03	14.88	-0.100952	8.85	-0.205173	63.96	0.3288803	12.28	-0.193955
11	80016	0.75	0.2049302	0.28	0.03	3	-0.180508	74.83	0.2049302	4.4	-0.201843	17.75	-0.043798
12	80016	0.81	0.3111216	0.45	0.01	3.24	-0.226801	2.92	-0.223136	12.61	-0.131767	81.22	0.3111216
13	80016	0.58	0.2161481	0.27	0.04	11.37	-0.106296	4.27	-0.221248	26.42	-0.063951	57.89	0.2161481
14	80016	0.81	0.3361019	0.48	0.03	81.46	0.3361019	13.46	-0.178897	3.18	-0.227766	1.86	-0.218022
15	80016	0.73	0.4596534	0.6	0.02	7.86	-0.233239	10.31	-0.276407	72.62	0.4596534	9.19	-0.201076
16	80016	0.84	0.2931914	0.43	0.01	9.45	-0.183472	1.73	-0.172245	83.78	0.2931914	5.02	-0.146154
17	80016	0.81	0.4637369	0.66	0.03	4.14	-0.211759	7.55	-0.259152	7.19	-0.274191	81.1	0.4637369
18	80016	0.72	0.4605762	0.6	0.02	2.27	-0.217227	9.7	-0.309938	72.14	0.4605762	15.87	-0.22533
19	80016	0.5	0.3469989	0.43	0.03	20.29	-0.061695	49.76	0.3469989	19.44	-0.177512	10.49	-0.255944
20	80016	0.82	0.4283843	0.62	0.05	82.21	0.4283843	9.91	-0.267391	4.02	-0.229712	3.81	-0.20173
21	80016	0.57	0.2922672	0.36	0.02	9.23	-0.223699	12.54	-0.16361	57.15	0.2922672	21.06	-0.062991
22	80016	0.48	0.2144806	0.27	0.02	14.89	-0.024425	17.5	-0.041724	19.51	-0.208467	48.09	0.2144806
23	80016	0.21	0.1344271	0.19	0.03	24.69	0.0603666	41.42	-0.063948	13.31	-0.143793	20.55	0.1344271
24	80016	0.66	0.2940948	0.38	0.04	4.7	-0.201937	23.32	-0.209968	66.15	0.2940948	5.78	-0.032478
25	80016	0.68	0.3415208	0.44	0.05	9.63	-0.213183	13.94	-0.098478	8.56	-0.223299	67.82	0.3415208
26	80016	0.77	0.3826259	0.52	0.03	9.57	-0.212261	3.32	-0.231114	77.35	0.3826259	9.73	-0.189752
27	80016	0.64	0.3898718	0.49	0.03	4.21	-0.254393	9.9	-0.214076	64.45	0.3898718	21.41	-0.174384
28	80016	0.85	0.3809528	0.57	0.03	6.35	-0.213121	84.74	0.3809528	5.43	-0.210433	3.44	-0.203978
29	80016	0.78	0.3245594	0.45	0.05	7.02	-0.18483	8.09	-0.096847	6.56	-0.242605	78.27	0.3245594
30	80016	0.45	0.2540249	0.31	0.04	6.53	-0.137109	45.43	0.2540249	12.77	-0.181524	35.24	-0.067029
31	80016	0.81	0.329429	0.47	0.02	3.53	-0.167447	10.24	-0.143221	5.61	-0.242844	80.6	0.329429
32	80016	0.74	0.4076181	0.54	0.02	15.32	-0.207915	74.19	0.4076181	4.34	-0.231515	6.13	-0.234516
33	80016	0.76	0.4451316	0.6	0.03	5.42	-0.272071	5.91	-0.206309	12.63	-0.240031	76	0.4451316
34	80016	0.68	0.4149619	0.53	0.04	67.54	0.4149619	17.6	-0.190353	8.45	-0.225986	6.37	-0.241056
35	80016	0.6	0.3018142	0.38	0.02	19.31	-0.121387	15.43	-0.162399	60.35	0.3018142	4.89	-0.190376
36	80016	0.89	0.3442272	0.57	0.03	89.24	0.3442272	2.6	-0.210001	5.16	-0.222723	2.97	-0.140508
37	80016	0.77	0.2845972	0.39	0.02	8.74	-0.026695	76.85	0.2845972	11.94	-0.237697	2.44	-0.229216
38	80016	0.61	0.2913156	0.37	0.05	7.49	-0.24994	5.49	-0.263391	25.51	-0.036542	61.47	0.2913156
39	80016	0.88	0.4451329	0.71	0.04	3.18	-0.254005	4.48	-0.258289	88.07	0.4451329	4.24	-0.22893
40	80016	0.62	0.4290831	0.53	0.03	12.4	-0.22485	23.25	-0.256036	61.56	0.4290831	2.77	-0.161101

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

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Table 6.3.16 (continued)
Spring 2012 AIMS Classical Item Analysis
Science CRT Grade 8

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	80016	0.6	0.429574	0.53	0.03	23.03	-0.201304	59.63	0.429574	6.27	-0.27693	11.05	-0.187757
42	80016	0.53	0.3657482	0.45	0.03	11.95	-0.244076	9.23	-0.265477	52.68	0.3657482	26.11	-0.060486
43	80016	0.72	0.4646699	0.61	0.03	72.38	0.4646699	17.05	-0.30319	8.07	-0.218066	2.46	-0.221067
44	80016	0.84	0.4963246	0.73	0.04	4.93	-0.266382	5.38	-0.263336	5.81	-0.279633	83.84	0.4963246
45	80016	0.49	0.1940822	0.24	0.06	36.86	0.0336313	6.85	-0.226535	48.92	0.1940822	7.31	-0.215043
46	80016	0.53	0.3947143	0.48	0.02	6.23	-0.242266	53.28	0.3947143	6.5	-0.255971	33.97	-0.158851
47	80016	0.49	0.4451306	0.55	0.06	48.98	0.4451306	23.01	-0.169581	24.24	-0.267082	3.71	-0.193762
48	80016	0.6	0.486561	0.6	0.03	18.21	-0.299855	7.72	-0.207506	13.76	-0.19427	60.28	0.486561
49	80016	0.35	0.189218	0.24	0.04	34.72	0.189218	5.23	-0.217771	46.17	-0.001905	13.85	-0.117676
50	80016	0.69	0.4698935	0.6	0.24	4.66	-0.249659	15.87	-0.28913	68.55	0.4698935	10.68	-0.192201
51	80016	0.62	0.408092	0.51	0.24	13.34	-0.220897	15.65	-0.111828	8.53	-0.292625	62.24	0.408092
52	80016	0.71	0.4443444	0.58	0.24	7.27	-0.26892	71.31	0.4443444	9.4	-0.234501	11.78	-0.192793
53	80016	0.62	0.3553677	0.45	0.3	13.15	-0.106662	10.55	-0.240166	14.2	-0.178924	61.8	0.3553677
54	80016	0.48	0.2533144	0.31	0.24	17.88	-0.184903	48.5	0.2533144	22.46	-0.066176	10.93	-0.089832
55	80016	0.47	0.32878	0.41	0.25	27.8	-0.088759	10.74	-0.18867	47.45	0.32878	13.77	-0.191113
56	80016	0.57	0.5104745	0.63	0.26	17.29	-0.172489	11.59	-0.282971	13.57	-0.281261	57.3	0.5104745
57	80016	0.78	0.461545	0.63	0.23	77.56	0.461545	9.17	-0.284428	9.86	-0.230454	3.19	-0.233557
58	80016	0.4	0.1499874	0.19	0.25	25.63	-0.071724	26.67	0.0519891	7.16	-0.252884	40.29	0.1499874

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.17
Spring 2012 AIMS Classical Item Analysis
Science CRT High School

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	53345	0.89	0.3776724	0.66	0.03	4.43	-0.220316	2.68	-0.202159	88.56	0.3776724	4.3	-0.211492
2	53345	0.9	0.2805683	0.5	0.06	4.59	-0.149024	89.98	0.2805683	3.47	-0.179601	1.89	-0.150893
3	53345	0.7	0.3170466	0.43	0.08	70.14	0.3170466	6.17	-0.16349	6.82	-0.175631	16.79	-0.170523
4	53345	0.85	0.4190626	0.68	0.02	3.8	-0.252641	85.31	0.4190626	7.56	-0.238991	3.3	-0.215037
5	53345	0.82	0.273504	0.42	0.03	1.97	-0.176872	82.39	0.273504	10.49	-0.154923	5.12	-0.152831
6	53345	0.72	0.2993645	0.41	0.06	8.4	-0.11746	6.82	-0.159998	72.39	0.2993645	12.33	-0.18948
7	53345	0.8	0.4298106	0.63	0.06	8.68	-0.231814	79.93	0.4298106	7.29	-0.244721	4.03	-0.228583
8	53345	0.75	0.5029642	0.71	0.06	8.8	-0.235489	9.59	-0.309076	74.98	0.5029642	6.57	-0.256058
9	53345	0.55	0.3624458	0.45	0.1	19.11	-0.20479	55.35	0.3624458	8.23	-0.250287	17.21	-0.096225
10	53345	0.57	0.3832161	0.48	0.1	16.58	-0.10665	56.98	0.3832161	14.35	-0.235869	11.99	-0.217874
11	53345	0.64	0.4818037	0.63	0.03	10.16	-0.26439	15.34	-0.233159	10.21	-0.242888	64.26	0.4818037
12	53345	0.76	0.5830821	0.83	0.05	6.9	-0.304733	9.29	-0.29661	7.97	-0.334856	75.79	0.5830821
13	53345	0.69	0.5181565	0.69	0.06	9.75	-0.147054	13.88	-0.335301	7.78	-0.326158	68.53	0.5181565
14	53345	0.47	0.4303154	0.53	0.07	26.75	-0.166039	46.59	0.4303154	16.9	-0.212408	9.7	-0.235915
15	53345	0.7	0.3657678	0.49	0.06	70.31	0.3657678	12.13	-0.203862	12.82	-0.166318	4.68	-0.224774
16	53345	0.83	0.5270945	0.82	0.05	4.77	-0.280988	5.04	-0.295009	7.54	-0.29416	82.61	0.5270945
17	53345	0.65	0.421776	0.55	0.1	8.12	-0.272704	9.77	-0.322007	64.53	0.421776	17.48	-0.103104
18	53345	0.55	0.3707361	0.46	0.14	10.48	-0.168406	15.94	-0.188359	18.57	-0.172715	54.87	0.3707361
19	53345	0.49	0.3522415	0.44	0.12	28.16	-0.08474	48.83	0.3522415	10.06	-0.253576	12.83	-0.209058
20	53345	0.61	0.4587717	0.58	0.04	11.56	-0.234535	10.77	-0.251137	16.73	-0.2031	60.9	0.4587717
21	53345	0.61	0.3817355	0.49	0.05	16.74	-0.153182	60.77	0.3817355	14.07	-0.257844	8.36	-0.155797
22	53345	0.31	0.2379605	0.3	0.1	39.09	-0.012808	23.09	-0.207896	30.72	0.2379605	7	-0.086204
23	53345	0.56	0.3741978	0.47	0.1	5.5	-0.204082	23.63	-0.203015	55.9	0.3741978	14.87	-0.163736
24	53345	0.79	0.5137673	0.77	0.06	10.2	-0.282666	79.24	0.5137673	6.56	-0.305639	3.93	-0.257609
25	53345	0.57	0.3477791	0.44	0.07	20.83	-0.164296	12.26	-0.158263	56.54	0.3477791	10.3	-0.185731
26	53345	0.52	0.3971321	0.49	0.11	52.41	0.3971321	14.01	-0.234908	17.89	-0.242076	15.58	-0.08319
27	53345	0.53	0.3192569	0.4	0.07	53.2	0.3192569	33.2	-0.137256	10.01	-0.21783	3.51	-0.190381
28	53345	0.36	0.3405752	0.42	0.12	36.18	0.3405752	11.05	-0.214066	24.23	-0.133892	28.42	-0.105468
29	53345	0.5	0.4317728	0.53	0.11	17.22	-0.185596	24.13	-0.174122	8.85	-0.27816	49.7	0.4317728
30	53345	0.54	0.3555021	0.44	0.11	9.59	-0.240751	18.51	-0.121454	53.56	0.3555021	18.23	-0.166325
31	53345	0.74	0.4414422	0.61	0.12	7.46	-0.266714	10.39	-0.300069	73.93	0.4414422	8.1	-0.129173
32	53345	0.58	0.4072395	0.52	0.17	58.14	0.4072395	26.21	-0.175556	8.81	-0.281126	6.67	-0.20447
33	53345	0.69	0.4776117	0.64	0.13	7.91	-0.224394	16.56	-0.25296	68.93	0.4776117	6.47	-0.290435
34	53345	0.44	0.2569856	0.32	0.06	19.51	-0.157112	12.58	-0.268955	44.2	0.2569856	23.64	0.0390789
35	53345	0.8	0.5982331	0.9	0.05	5.59	-0.301897	7.89	-0.329522	6.87	-0.341363	79.61	0.5982331
36	53345	0.7	0.5615205	0.75	0.07	8.15	-0.317885	9.2	-0.321037	12.89	-0.250818	69.68	0.5615205
37	53345	0.36	0.3865764	0.48	0.11	18.11	-0.161188	16.46	-0.215413	29.56	-0.112645	35.76	0.3865764
38	53345	0.44	0.4587845	0.56	0.09	9.15	-0.279566	33.58	-0.157465	13.12	-0.252021	44.05	0.4587845
39	53345	0.73	0.3833593	0.53	0.08	9.95	-0.224639	6.56	-0.297311	72.59	0.3833593	10.82	-0.108212
40	53345	0.66	0.4158368	0.54	0.1	12.01	-0.199801	12.82	-0.228838	66.33	0.4158368	8.74	-0.204586

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(table continues)

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Table 6.3.17 (continued)
Spring 2012 AIMS Classical Item Analysis
Science CRT High School

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
41	53345	0.72	0.3955707	0.54	0.1	8.5	-0.212171	72.26	0.3955707	9.08	-0.247465	10.06	-0.162759
42	53345	0.61	0.5098657	0.65	0.13	9.57	-0.27994	15.74	-0.249738	13.63	-0.239537	60.93	0.5098657
43	53345	0.8	0.5039396	0.75	0.14	8.47	-0.274789	6.48	-0.305807	80.22	0.5039396	4.69	-0.241048
44	53345	0.58	0.4933974	0.63	0.12	19.62	-0.187994	58.36	0.4933974	13.97	-0.279942	7.94	-0.294623
45	53345	0.57	0.4184379	0.53	0.06	57.49	0.4184379	9.48	-0.265876	9.52	-0.249235	23.45	-0.15039
46	53345	0.74	0.6238399	0.87	0.1	5.29	-0.283414	9	-0.322674	11.6	-0.382507	74.01	0.6238399
47	53345	0.8	0.5128607	0.76	0.08	8.11	-0.298418	79.94	0.5128607	6.12	-0.285148	5.74	-0.247991
48	53345	0.73	0.5535529	0.76	0.1	72.78	0.5535529	10.07	-0.267542	10.63	-0.324301	6.42	-0.286147
49	53345	0.59	0.5354432	0.68	0.11	13.05	-0.213156	13.03	-0.273561	14.94	-0.29747	58.87	0.5354432
50	53345	0.78	0.5876942	0.87	0.09	78.43	0.5876942	7.64	-0.320217	7.65	-0.330422	6.19	-0.299029
51	53345	0.38	0.3852355	0.48	0.13	11.72	-0.238842	21.2	-0.139717	28.76	-0.140321	38.19	0.3852355
52	53345	0.4	0.3532026	0.44	0.13	10.88	-0.241433	34.51	-0.062747	14.44	-0.22369	40.04	0.3532026
53	53345	0.78	0.542849	0.8	0.1	7.65	-0.281704	6.93	-0.298791	6.82	-0.297121	78.49	0.542849
54	53345	0.52	0.4137811	0.51	0.13	25.99	-0.134667	51.62	0.4137811	14.75	-0.292814	7.51	-0.195392
55	53345	0.63	0.5317858	0.68	0.14	10.81	-0.289337	12.26	-0.247638	14.08	-0.264318	62.71	0.5317858
56	53345	0.74	0.5162261	0.72	0.11	6.21	-0.276793	7.46	-0.298119	11.97	-0.258528	74.25	0.5162261
57	53345	0.43	0.3413365	0.42	0.06	8.31	-0.348244	38.38	-0.018008	10.45	-0.249773	42.8	0.3413365
58	53345	0.46	0.2909695	0.36	0.1	45.59	0.2909695	18.21	-0.145619	15.99	-0.188875	20.12	-0.059269
59	53345	0.75	0.5480528	0.77	0.1	74.83	0.5480528	8.62	-0.304178	9.98	-0.310795	6.47	-0.255139
60	53345	0.7	0.5345035	0.72	0.14	70.14	0.5345035	13.93	-0.273255	8.12	-0.315358	7.67	-0.257152
61	53345	0.7	0.5156343	0.69	0.12	7.29	-0.297507	13.02	-0.285936	70.14	0.5156343	9.44	-0.227803
62	53345	0.44	0.3433697	0.42	0.16	15.65	-0.213876	19.74	-0.180493	43.74	0.3433697	20.71	-0.06498
63	53345	0.77	0.5418998	0.79	0.13	7.64	-0.29052	77.3	0.5418998	9.16	-0.322033	5.77	-0.255863
64	53345	0.59	0.4223492	0.53	0.1	15.24	-0.177448	11.43	-0.279064	59.1	0.4223492	14.13	-0.170078
65	53345	0.64	0.4634441	0.6	0.09	22.34	-0.261777	64.02	0.4634441	6.14	-0.263074	7.42	-0.210508

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.18
Spring 2012 AIMS Classical Item Analysis
Writing CRT Grade 5

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82397	0.92	0.3695622	0.69	0.04	4.77	-0.264892	0.95	-0.163051	1.86	-0.190908	92.38	0.3695622
2	82397	0.65	0.3129509	0.39	0.04	2.57	-0.181235	65.38	0.3129509	21.39	-0.212276	10.62	-0.109081
3	82397	0.61	0.4059681	0.5	0.03	5.74	-0.26475	8.76	-0.24027	60.69	0.4059681	24.78	-0.161286
4	82397	0.8	0.3991837	0.56	0.12	9.01	-0.218371	4.7	-0.177579	5.87	-0.249154	80.29	0.3991837
5	82397	0.45	0.2983584	0.36	0.08	5.97	-0.276896	44.4	-0.075481	45.06	0.2983584	4.49	-0.224952
6	82397	0.58	0.3365858	0.41	0.11	7.8	-0.255783	57.93	0.3365858	27.37	-0.143699	6.8	-0.136074
7	82397	0.81	0.5157236	0.73	0.12	7.9	-0.294871	4.98	-0.274834	81.21	0.5157236	5.78	-0.265472
8	82397	0.59	0.2928468	0.36	0.11	58.85	0.2928468	7.34	-0.233929	5.4	-0.280953	28.3	-0.045848
9	82397	0.48	0.3335738	0.4	0.19	21.69	-0.211123	8.72	-0.188808	21.7	-0.064656	47.7	0.3335738
10	82397	0.65	0.3369263	0.42	0.04	7.62	-0.169907	15.19	-0.132031	64.91	0.3369263	12.25	-0.209088
11	82397	0.79	0.4751275	0.65	0.06	7.47	-0.250658	3.38	-0.276443	10.16	-0.258805	78.92	0.4751275
12	82397	0.81	0.42002	0.59	0.02	81.02	0.42002	4.89	-0.256214	5.31	-0.233493	8.76	-0.202971
13	82397	0.61	0.4164481	0.51	0.04	60.7	0.4164481	11.43	-0.283504	22.04	-0.137148	5.78	-0.24513
14	82397	0.74	0.4483326	0.58	0.03	73.76	0.4483326	9.03	-0.269372	8.71	-0.252767	8.48	-0.176343
15	82397	0.7	0.4514773	0.58	0.04	8.33	-0.279481	13.93	-0.243777	70.43	0.4514773	7.27	-0.172323
16	82397	0.59	0.4345596	0.53	0.07	9.05	-0.2928	6.57	-0.256357	25.51	-0.154336	58.8	0.4345596
17	82397	0.67	0.2983231	0.38	0.03	2.07	-0.230287	29.08	-0.17516	2.11	-0.20311	66.71	0.2983231
18	82397	0.84	0.4641041	0.69	0.04	3.38	-0.241808	8.45	-0.281095	3.71	-0.246505	84.42	0.4641041
19	82397	0.47	0.3411736	0.41	0.06	41.34	-0.114806	46.96	0.3411736	6.21	-0.27081	5.43	-0.218514
20	82397	0.81	0.4047488	0.57	0.03	81.17	0.4047488	4.73	-0.230871	6.63	-0.173641	7.44	-0.252337
21	82397	0.89	0.4302215	0.7	0.03	3.51	-0.277113	4.55	-0.246519	88.9	0.4302215	3.02	-0.192163
22	82397	0.6	0.3303465	0.41	0.06	8.02	-0.251312	11.47	-0.172657	20.47	-0.096902	59.98	0.3303465
23	82397	0.6	0.4286732	0.52	0.06	60.15	0.4286732	12.27	-0.228764	8.04	-0.215524	19.47	-0.193635
24	82397	0.7	0.3674259	0.47	0.09	69.94	0.3674259	4.08	-0.257768	4.74	-0.253868	21.15	-0.157417
25	82397	0.81	0.4092718	0.58	0.06	3.16	-0.228177	81.03	0.4092718	4.13	-0.247024	11.62	-0.223529
26	82397	0.75	0.4553489	0.6	0.05	14.43	-0.231276	6.3	-0.248005	74.52	0.4553489	4.71	-0.271379
27	82397	0.6	0.4331151	0.53	0.1	11.64	-0.214368	15.53	-0.207147	59.97	0.4331151	12.75	-0.205959

Note. This test included a writing prompt scored on the holistic six-point rubric (see Appendix D). Summary data for the prompt can be found in Table 6.3.22.1. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

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Table 6.3.19
Spring 2012 AIMS Classical Item Analysis
Writing CRT Grade 6

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82062	0.8	0.3475266	0.49	0.04	2.74	-0.137131	8.48	-0.198268	80.44	0.3475266	8.3	-0.218344
2	82062	0.95	0.2880292	0.59	0.01	0.79	-0.118365	94.62	0.2880292	1.41	-0.130609	3.17	-0.222952
3	82062	0.83	0.3439627	0.49	0.04	82.53	0.3439627	6.43	-0.149344	6.32	-0.151392	4.68	-0.270965
4	82062	0.79	0.4533626	0.62	0.02	78.75	0.4533626	8.69	-0.291073	3.05	-0.170544	9.5	-0.253536
5	82062	0.67	0.3810561	0.48	0.04	1.98	-0.179082	66.96	0.3810561	24.91	-0.268112	6.11	-0.161012
6	82062	0.55	0.4520454	0.54	0.11	8.53	-0.262478	25.24	-0.269987	54.77	0.4520454	11.35	-0.109217
7	82062	0.55	0.2602961	0.32	0.03	6.15	-0.254355	22.54	-0.018491	54.55	0.2602961	16.73	-0.164006
8	82062	0.73	0.4604272	0.59	0.04	72.53	0.4604272	8.8	-0.264878	7.62	-0.289365	11.01	-0.172384
9	82062	0.83	0.4401093	0.64	0.03	4.71	-0.270675	2.35	-0.232622	83.12	0.4401093	9.79	-0.244149
10	82062	0.82	0.3590185	0.52	0.02	3.35	-0.218711	82.48	0.3590185	2.72	-0.221278	11.44	-0.193551
11	82062	0.68	0.3272374	0.42	0.03	4.14	-0.159569	24.87	-0.201341	2.64	-0.211551	68.32	0.3272374
12	82062	0.55	0.2933639	0.36	0.03	3.54	-0.257436	54.95	0.2933639	8.96	-0.099364	32.52	-0.150864
13	82062	0.57	0.2948194	0.36	0.05	56.91	0.2948194	24.52	-0.190882	4.84	-0.227914	13.68	-0.044788
14	82062	0.69	0.3655253	0.46	0.04	4.41	-0.220083	15.06	-0.143651	68.98	0.3655253	11.51	-0.228003
15	82062	0.77	0.3957861	0.53	0.02	4.44	-0.286522	14.16	-0.169827	4.27	-0.24055	77.11	0.3957861
16	82062	0.61	0.376124	0.46	0.09	12.07	-0.213671	15.24	-0.227142	60.81	0.376124	11.78	-0.100714
17	82062	0.7	0.4484968	0.57	0.02	6.56	-0.302536	17.83	-0.184221	5.56	-0.264619	70.03	0.4484968
18	82062	0.59	0.4070557	0.49	0.06	10.94	-0.212292	18.97	-0.126512	11.45	-0.266597	58.58	0.4070557
19	82062	0.84	0.4634538	0.68	0.05	3.26	-0.249114	6.36	-0.265158	6.28	-0.250253	84.04	0.4634538
20	82062	0.74	0.4220326	0.55	0.05	74.37	0.4220326	4.14	-0.276463	10.46	-0.217384	10.97	-0.201356
21	82062	0.26	0.2221848	0.29	0.04	62.29	-0.059257	26	0.2221848	7.27	-0.05028	4.39	-0.276798
22	82062	0.49	0.3085974	0.37	0.05	10.12	-0.239585	15.82	-0.159155	25.17	-0.055952	48.84	0.3085974
23	82062	0.65	0.4957403	0.61	0.05	13.3	-0.261981	64.69	0.4957403	8.05	-0.302019	13.91	-0.191171
24	82062	0.49	0.2732217	0.33	0.06	13.96	-0.163364	49.33	0.2732217	16.46	-0.135941	20.2	-0.073968
25	82062	0.67	0.4337701	0.54	0.02	16.51	-0.20817	9.3	-0.241861	67.48	0.4337701	6.69	-0.224147
26	82062	0.83	0.5004681	0.72	0.03	5.99	-0.28529	83.11	0.5004681	4.35	-0.256914	6.52	-0.273356
27	82062	0.72	0.2860388	0.37	0.05	7.14	-0.196539	13.58	-0.117753	72.17	0.2860388	7.05	-0.14582

Note. This test included a writing prompt scored on the holistic six-point rubric (see Appendix D). Summary data for the prompt can be found in Table 6.3.22.1. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

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Table 6.3.20
Spring 2012 AIMS Classical Item Analysis
Writing CRT Grade 7

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81502	0.63	0.2957783	0.37	0.02	20.18	-0.100068	6.38	-0.172636	10.07	-0.200904	63.34	0.2957783
2	81502	0.34	0.1246961	0.16	0.04	33.67	0.1246961	2.94	-0.246715	26.97	-0.009967	36.38	-0.027832
3	81502	0.66	0.392264	0.49	0.06	10.26	-0.204172	10.04	-0.191539	13.32	-0.194089	66.32	0.392264
4	81502	0.74	0.414115	0.54	0.04	7.99	-0.256405	73.87	0.414115	8.02	-0.212839	10.09	-0.181939
5	81502	0.55	0.3041027	0.37	0.05	55.35	0.3041027	18.8	-0.246128	10.26	-0.180438	15.53	-0.001209
6	81502	0.82	0.4820951	0.69	0.04	82.19	0.4820951	3.32	-0.254155	10.91	-0.292125	3.56	-0.259703
7	81502	0.77	0.4247713	0.57	0.06	6.41	-0.188296	77.03	0.4247713	5.12	-0.234156	11.38	-0.255073
8	81502	0.68	0.4221075	0.53	0.07	67.83	0.4221075	9.37	-0.25936	2.66	-0.240245	20.07	-0.207765
9	81502	0.82	0.3796952	0.54	0.07	7.89	-0.192873	3.72	-0.23201	81.93	0.3796952	6.39	-0.205276
10	81502	0.84	0.3280535	0.48	0.01	11.32	-0.242618	2.09	-0.153969	83.98	0.3280535	2.6	-0.135497
11	81502	0.82	0.4333399	0.62	0.03	2.69	-0.197807	4.08	-0.265257	10.97	-0.260295	82.23	0.4333399
12	81502	0.73	0.4435421	0.58	0.01	10.62	-0.272394	8.89	-0.212097	7.05	-0.202454	73.43	0.4435421
13	81502	0.84	0.3510547	0.51	0.02	83.59	0.3510547	3.08	-0.17899	2.94	-0.18916	10.37	-0.220835
14	81502	0.83	0.414407	0.59	0.03	6.49	-0.260887	8.51	-0.223116	82.65	0.414407	2.32	-0.202922
15	81502	0.61	0.3517729	0.43	0.02	7.35	-0.263525	7	-0.198879	24.14	-0.122058	61.48	0.3517729
16	81502	0.74	0.3981074	0.52	0.04	16.89	-0.173087	73.6	0.3981074	4.46	-0.297015	5.01	-0.228395
17	81502	0.87	0.4907805	0.76	0.04	4.29	-0.250972	3.42	-0.278926	5.16	-0.284755	87.09	0.4907805
18	81502	0.58	0.3545898	0.43	0.05	58.28	0.3545898	8.17	-0.27667	12.79	-0.182887	20.71	-0.094589
19	81502	0.75	0.3140398	0.42	0.02	15.43	-0.175493	75.5	0.3140398	3.13	-0.237083	5.92	-0.130092
20	81502	0.56	0.2903696	0.35	0.03	25.74	-0.021354	10.57	-0.249022	55.78	0.2903696	7.87	-0.218082
21	81502	0.67	0.433187	0.54	0.05	67.3	0.433187	8.33	-0.242523	8.21	-0.286987	16.12	-0.156882
22	81502	0.57	0.4045752	0.49	0.03	57.47	0.4045752	4.34	-0.259946	7.05	-0.265202	31.12	-0.172683
23	81502	0.73	0.4547242	0.59	0.09	8.53	-0.20306	73.08	0.4547242	13.4	-0.265425	4.9	-0.253207
24	81502	0.89	0.4320136	0.7	0.05	4.2	-0.238367	3.67	-0.242002	3.44	-0.239403	88.65	0.4320136
25	81502	0.4	0.266932	0.33	0.07	36.54	0.0739206	39.75	0.266932	15.6	-0.288392	8.04	-0.228479
26	81502	0.79	0.4018997	0.55	0.04	9.8	-0.236318	78.77	0.4018997	5.65	-0.240246	5.74	-0.16634
27	81502	0.8	0.4806658	0.67	0.07	80.19	0.4806658	6.74	-0.238525	6.76	-0.273991	6.24	-0.260117

Note. This test included a writing prompt scored on the holistic six-point rubric (see Appendix D). Summary data for the prompt can be found in Table 6.3.22.1. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

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Table 6.3.21
Spring 2012 AIMS Classical Item Analysis
Writing CRT High School Prompt A

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	76626	0.8	0.2591009	0.35	0.05	6.65	-0.134328	79.85	0.2591009	2.93	-0.137318	10.51	-0.149064
2	76626	0.75	0.2578974	0.33	0.03	75.18	0.2578974	5.81	-0.033865	7.43	-0.087655	11.54	-0.243606
3	76626	0.61	0.1812504	0.22	0.09	61.31	0.1812504	7.28	-0.065174	24.06	-0.119157	7.27	-0.074594
4	76626	0.49	0.1396319	0.17	0.03	49.19	0.1396319	15.4	-0.049711	7.14	-0.082145	28.24	-0.066052
5	76626	0.86	0.3722326	0.54	0.12	4.15	-0.24263	3.58	-0.127385	86.33	0.3722326	5.82	-0.229894
6	76626	0.79	0.3316422	0.44	0.04	3.7	-0.134946	78.77	0.3316422	7.5	-0.244488	9.99	-0.144966
7	76626	0.58	0.3967757	0.47	0.05	29.45	-0.303593	58.25	0.3967757	6.66	-0.081382	5.6	-0.139423
8	76626	0.51	0.3618151	0.44	0.03	50.8	0.3618151	35.59	-0.118201	11.85	-0.283544	1.72	-0.175735
9	76626	0.37	0.3270872	0.41	0.07	9.6	-0.103903	35.55	-0.187934	37.36	0.3270872	17.42	-0.086562
10	76626	0.58	0.3514447	0.42	0.08	11.55	-0.16923	58.09	0.3514447	21.34	-0.174422	8.94	-0.158774
11	76626	0.48	0.2819577	0.34	0.03	5.3	-0.137648	42.14	-0.158377	48.22	0.2819577	4.31	-0.137152
12	76626	0.83	0.334862	0.46	0.02	9.26	-0.176167	3.02	-0.150459	83.37	0.334862	4.32	-0.222421
13	76626	0.75	0.3489861	0.44	0.04	21.87	-0.219386	1.6	-0.186603	1.72	-0.236158	74.76	0.3489861
14	76626	0.83	0.4379556	0.58	0.04	4.59	-0.192215	5.84	-0.253389	6.77	-0.250686	82.76	0.4379556
15	76626	0.68	0.2192807	0.28	0.07	16.37	-0.025883	4.34	-0.269501	68.05	0.2192807	11.16	-0.099253
16	76626	0.56	0.3040894	0.37	0.07	55.55	0.3040894	7.91	-0.240567	1.83	-0.229366	34.63	-0.095059
17	76626	0.86	0.3531543	0.5	0.03	1.33	-0.20542	3.69	-0.168913	85.85	0.3531543	9.1	-0.226939
18	76626	0.82	0.3692181	0.49	0.03	8.32	-0.167909	4.27	-0.237349	81.55	0.3692181	5.83	-0.195329
19	76626	0.91	0.2413964	0.39	0.08	90.81	0.2413964	5.08	-0.12464	2.85	-0.152568	1.19	-0.145688
20	76626	0.87	0.4188845	0.59	0.06	3.27	-0.188171	86.88	0.4188845	5.19	-0.26495	4.6	-0.224427
21	76626	0.82	0.3807055	0.5	0.07	11.28	-0.328242	81.71	0.3807055	5.2	-0.132416	1.74	-0.088098
22	76626	0.49	0.3869626	0.47	0.11	49.49	0.3869626	10.85	-0.136825	12.76	-0.282784	26.78	-0.107312
23	76626	0.77	0.353186	0.45	0.1	6.84	-0.163336	12.22	-0.190513	76.65	0.353186	4.19	-0.211782
24	76626	0.67	0.3527271	0.43	0.1	15.89	-0.224907	1.94	-0.2062	15.04	-0.139935	67.04	0.3527271
25	76626	0.73	0.3164525	0.4	0.08	6.86	-0.167021	72.61	0.3164525	3.78	-0.242134	16.68	-0.12746
26	76626	0.7	0.4886331	0.59	0.19	9.3	-0.281521	69.79	0.4886331	11.91	-0.227919	8.81	-0.216904
27	76626	0.51	0.2366063	0.29	0.75	8.72	-0.05961	14.96	-0.130859	50.59	0.2366063	24.98	-0.120688

Note. This test included a writing prompt scored on the holistic six-point rubric (see Appendix D). Summary data for the prompt can be found in Table 6.3.22.2. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

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Table 6.3.22.1
Spring 2012 AIMS Classical Item Analysis
Writing Prompts Grade 5-7

					Percent at Score Point							
Grade	N	P-value	Pbs	Omit	0	1	2	3	4	5	6	Invalid
5	82397	0.63	0.60	0.24	1.17	0.67	6.57	27.78	44.96	14.95	3.65	0.00
6	82033	0.61	0.57	0.18	0.62	0.98	8.36	29.84	45.67	11.68	2.66	0.00
7	81502	0.59	0.58	0.19	0.51	1.01	8.81	35.34	43.58	8.93	1.64	0.00

Note. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.
P-value = Sum of all students' scores /(N*6).

Table 6.3.22.2
Spring 2012 AIMS Classical Item Analysis
Writing Prompts High School

					Percent at Score Point												
Prompt	N	P-value	Pbs	Omit	0	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	Invalid
A	98236	0.62	0.67	0.45	0.33	0.49	0.57	3.49	4.67	19.15	17.23	32.74	11.33	6.47	2.27	0.83	0.00
T	3137	0.55	0.63	1.02	0.41	1.72	1.47	9.66	10.42	27.16	16.86	21.77	5.29	2.49	1.31	0.41	0.00

Note. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.
P-value = Sum of all students' scores /(N*6).

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Table 6.3.23
Spring 2012 AIMS Classical Item Analysis
Mathematics NRT Grade 3

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82905	0.65	0.39	0.49	0.11	17.89	-0.22	14.04	-0.20	65.30	0.39	2.66	-0.20
2	82905	0.87	0.46	0.70	0.23	87.03	0.46	3.08	-0.25	5.43	-0.23	4.24	-0.29
3	82905	0.89	0.20	0.31	1.56	0.67	-0.11	89.38	0.20	8.04	-0.16	0.35	-0.10
4	82905	0.86	0.34	0.51	0.51	86.00	0.34	3.19	-0.27	1.96	-0.22	8.34	-0.13
5	82905	0.54	0.41	0.49	0.21	27.13	-0.38	53.69	0.41	6.48	-0.10	12.49	-0.03
6	82905	0.67	0.42	0.52	0.22	12.23	-0.24	9.19	-0.21	66.79	0.42	11.57	-0.19
7	82905	0.72	0.41	0.51	1.51	8.17	-0.23	13.07	-0.21	72.05	0.41	5.20	-0.20
8	82905	0.47	0.31	0.37	0.46	47.17	0.31	11.38	-0.09	33.79	-0.17	7.21	-0.17
9	82905	0.87	0.50	0.76	0.13	86.50	0.50	3.34	-0.21	9.60	-0.43	0.43	-0.11
10	82905	0.86	0.43	0.65	0.40	3.04	-0.22	86.32	0.43	5.53	-0.22	4.72	-0.27
11	82905	0.59	0.53	0.63	0.50	5.17	-0.17	59.06	0.53	4.03	-0.19	31.25	-0.39
12	82905	0.69	0.48	0.60	0.37	14.69	-0.27	8.54	-0.21	69.29	0.48	7.11	-0.25
13	82905	0.70	0.51	0.64	0.34	19.72	-0.37	3.69	-0.25	6.47	-0.16	69.78	0.51
14	82905	0.77	0.47	0.63	0.38	5.54	-0.26	9.96	-0.28	77.27	0.47	6.85	-0.21
15	82905	0.86	0.47	0.69	0.27	85.64	0.47	8.07	-0.28	3.15	-0.23	2.87	-0.27
16	82905	0.68	0.45	0.56	0.22	17.51	-0.25	67.89	0.45	10.50	-0.20	3.87	-0.27
17	82905	0.88	0.44	0.68	0.26	87.77	0.44	3.94	-0.24	3.69	-0.24	4.34	-0.24
18	82905	0.83	0.46	0.66	0.30	5.54	-0.25	4.24	-0.28	6.74	-0.23	83.18	0.46
19	82905	0.93	0.25	0.47	0.24	93.31	0.25	2.81	-0.16	3.02	-0.14	0.62	-0.14
20	82905	0.81	0.48	0.66	0.18	81.19	0.48	4.39	-0.13	2.56	-0.18	11.69	-0.41
21	82905	0.53	0.36	0.43	0.34	10.56	-0.16	23.59	-0.16	12.38	-0.18	53.12	0.36
22	82905	0.75	0.33	0.43	0.24	11.57	-0.22	74.87	0.33	8.12	-0.19	5.19	-0.08
23	82905	0.92	0.24	0.41	1.26	1.47	-0.11	92.36	0.24	1.37	-0.15	3.54	-0.16
24	82905	0.82	0.45	0.64	0.15	4.86	-0.30	6.87	-0.19	82.26	0.45	5.86	-0.24
25	82905	0.65	0.36	0.45	0.13	9.31	-0.17	10.34	-0.12	64.79	0.36	15.42	-0.24

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.24
Spring 2012 AIMS Classical Item Analysis
Mathematics NRT Grade 4

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81924	0.40	0.42	0.50	0.04	24.99	-0.22	39.98	0.42	11.92	-0.15	23.06	-0.15
2	81924	0.63	0.46	0.56	0.04	8.15	-0.31	11.10	-0.23	17.25	-0.16	63.46	0.46
3	81924	0.90	0.35	0.58	0.04	6.80	-0.29	89.69	0.35	1.14	-0.13	2.33	-0.13
4	81924	0.77	0.41	0.54	0.07	77.16	0.41	7.22	-0.24	10.17	-0.20	5.37	-0.22
5	81924	0.37	0.38	0.47	0.08	50.84	-0.33	37.04	0.38	4.66	-0.10	7.38	0.00
6	81924	0.77	0.48	0.64	0.08	4.37	-0.19	5.63	-0.21	77.41	0.48	12.51	-0.34
7	81924	0.74	0.45	0.59	0.15	8.78	-0.25	8.19	-0.28	74.06	0.45	8.82	-0.18
8	81924	0.77	0.45	0.60	0.03	6.24	-0.23	76.57	0.45	9.62	-0.18	7.53	-0.32
9	81924	0.91	0.36	0.62	0.02	90.70	0.36	2.65	-0.19	4.79	-0.26	1.84	-0.16
10	81924	0.65	0.47	0.57	0.05	16.15	-0.40	8.39	-0.20	10.88	-0.08	64.54	0.47
11	81924	0.88	0.41	0.64	0.04	87.60	0.41	4.12	-0.21	2.91	-0.23	5.33	-0.25
12	81924	0.67	0.47	0.58	0.06	7.68	-0.34	67.47	0.47	8.62	-0.23	16.17	-0.18
13	81924	0.62	0.40	0.48	0.07	28.26	-0.34	4.74	-0.10	61.51	0.40	5.43	-0.08
14	81924	0.46	0.36	0.43	0.09	45.67	0.36	17.47	-0.18	21.10	-0.16	15.67	-0.13
15	81924	0.78	0.42	0.56	0.06	78.23	0.42	4.08	-0.24	5.46	-0.23	12.17	-0.22
16	81924	0.83	0.42	0.61	0.08	4.57	-0.22	5.74	-0.21	6.43	-0.26	83.18	0.42
17	81924	0.63	0.37	0.45	0.06	62.96	0.37	5.86	-0.23	21.22	-0.13	9.90	-0.22
18	81924	0.79	0.45	0.61	0.05	79.26	0.45	8.06	-0.27	9.61	-0.25	3.02	-0.19
19	81924	0.64	0.44	0.53	0.75	12.64	-0.25	11.43	-0.18	63.95	0.44	11.23	-0.22
20	81924	0.88	0.32	0.51	0.06	3.47	-0.17	3.89	-0.17	4.36	-0.19	88.22	0.32
21	81924	0.57	0.38	0.46	0.03	10.10	-0.13	14.65	-0.09	18.30	-0.31	56.92	0.38
22	81924	0.87	0.26	0.41	0.03	7.39	-0.19	87.29	0.26	3.51	-0.11	1.78	-0.12
23	81924	0.67	0.31	0.39	0.10	16.08	-0.21	14.27	-0.12	2.13	-0.20	67.42	0.31
24	81924	0.29	0.20	0.25	0.08	29.36	0.20	7.89	-0.10	21.48	-0.06	41.19	-0.08
25	81924	0.72	0.36	0.46	0.14	4.26	-0.22	16.47	-0.14	72.3	0.36	6.83	-0.25

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.25
Spring 2012 AIMS Classical Item Analysis
Mathematics NRT Grade 5

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82386	0.25	0.32	0.42	0.05	53.69	-0.25	11.86	-0.03	9.12	-0.02	25.28	0.32
2	82386	0.59	0.36	0.44	0.05	30.55	-0.22	59.26	0.36	4.90	-0.16	5.24	-0.20
3	82386	0.45	0.42	0.50	0.03	10.22	-0.09	45.03	0.42	22.63	-0.16	22.10	-0.28
4	82386	0.69	0.36	0.46	0.05	69.21	0.36	5.84	-0.22	14.99	-0.16	9.92	-0.20
5	82386	0.73	0.38	0.49	0.06	73.36	0.38	13.43	-0.21	6.26	-0.25	6.88	-0.14
6	82386	0.65	0.38	0.48	0.11	64.81	0.38	25.32	-0.24	6.98	-0.20	2.77	-0.17
7	82386	0.53	0.45	0.54	0.14	21.91	-0.26	15.46	-0.19	53.11	0.45	9.38	-0.16
8	82386	0.58	0.39	0.47	0.20	16.43	-0.34	57.59	0.39	17.59	-0.02	8.20	-0.22
9	82386	0.39	0.20	0.25	0.13	13.76	-0.14	39.28	0.20	17.33	-0.07	29.50	-0.05
10	82386	0.68	0.40	0.50	0.03	68.05	0.40	17.68	-0.27	8.92	-0.18	5.33	-0.14
11	82386	0.58	0.50	0.60	0.03	25.55	-0.35	10.49	-0.17	58.08	0.50	5.85	-0.19
12	82386	0.79	0.45	0.61	0.05	78.77	0.45	6.21	-0.25	9.20	-0.28	5.77	-0.18
13	82386	0.62	0.42	0.51	0.05	27.17	-0.27	6.08	-0.18	62.40	0.42	4.30	-0.20
14	82386	0.87	0.36	0.56	0.02	5.47	-0.23	4.21	-0.21	87.12	0.36	3.19	-0.15
15	82386	0.74	0.45	0.59	0.05	73.63	0.45	5.84	-0.24	12.36	-0.23	8.13	-0.24
16	82386	0.50	0.38	0.46	0.07	33.23	-0.20	5.19	-0.21	11.68	-0.15	49.83	0.38
17	82386	0.39	0.17	0.21	0.06	12.36	-0.11	15.91	-0.14	32.60	0.01	39.07	0.17
18	82386	0.78	0.42	0.57	0.08	78.42	0.42	6.95	-0.15	6.36	-0.25	8.20	-0.26
19	82386	0.68	0.47	0.59	0.04	5.74	-0.19	10.80	-0.25	15.07	-0.27	68.35	0.47
20	82386	0.63	0.40	0.50	0.04	10.95	-0.24	14.43	-0.11	11.23	-0.25	63.35	0.40
21	82386	0.64	0.53	0.64	0.09	18.23	-0.28	6.50	-0.28	11.40	-0.25	63.78	0.53
22	82386	0.74	0.32	0.42	0.06	10.11	-0.21	73.67	0.32	5.87	-0.22	10.29	-0.09
23	82386	0.53	0.44	0.53	0.06	31.31	-0.33	8.58	-0.16	52.56	0.44	7.49	-0.09
24	82386	0.69	0.33	0.41	0.04	2.09	-0.11	69.33	0.33	19.12	-0.29	9.40	-0.07
25	82386	0.70	0.29	0.37	0.06	4.19	-0.12	2.47	-0.17	69.63	0.29	23.65	-0.20

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.26
Spring 2012 AIMS Classical Item Analysis
Mathematics NRT Grade 6

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81982	0.66	0.39	0.48	0.08	65.77	0.39	11.42	-0.25	5.88	-0.21	16.86	-0.15
2	81982	0.72	0.50	0.64	0.10	13.52	-0.32	8.27	-0.24	5.94	-0.19	72.18	0.50
3	81982	0.38	0.50	0.61	0.08	23.94	-0.29	9.58	-0.19	28.51	-0.14	37.89	0.50
4	81982	0.83	0.36	0.53	0.04	2.66	-0.18	83.45	0.36	12.09	-0.26	1.75	-0.15
5	81982	0.72	0.33	0.43	0.08	10.57	-0.08	9.56	-0.23	8.02	-0.21	71.77	0.33
6	81982	0.55	0.43	0.51	0.07	11.85	-0.15	15.64	-0.09	54.82	0.43	17.62	-0.34
7	81982	0.59	0.32	0.40	0.09	9.07	-0.14	18.00	-0.20	58.68	0.32	14.16	-0.12
8	81982	0.70	0.38	0.48	0.07	6.29	-0.28	10.93	-0.20	12.48	-0.13	70.23	0.38
9	81982	0.61	0.28	0.35	0.06	61.38	0.28	7.08	-0.17	22.85	-0.12	8.63	-0.15
10	81982	0.69	0.50	0.63	0.05	13.90	-0.27	7.62	-0.25	9.30	-0.25	69.14	0.50
11	81982	0.47	0.25	0.30	0.07	23.11	-0.03	47.03	0.25	14.26	-0.16	15.54	-0.15
12	81982	0.58	0.58	0.70	0.05	11.63	-0.26	15.35	-0.31	14.58	-0.27	58.39	0.58
13	81982	0.67	0.45	0.56	0.03	4.38	-0.22	5.84	-0.21	66.92	0.45	22.85	-0.28
14	81982	0.42	0.29	0.35	0.05	13.13	-0.25	26.35	-0.04	18.13	-0.11	42.33	0.29
15	81982	0.72	0.51	0.65	0.10	10.83	-0.26	71.59	0.51	9.39	-0.28	8.09	-0.26
16	81982	0.63	0.48	0.58	0.03	62.73	0.48	13.76	-0.25	15.72	-0.21	7.76	-0.26
17	81982	0.57	0.43	0.52	0.02	12.31	-0.27	56.79	0.43	23.39	-0.18	7.49	-0.18
18	81982	0.74	0.54	0.70	0.07	6.91	-0.25	11.83	-0.31	6.97	-0.28	74.23	0.54
19	81982	0.51	0.51	0.60	0.05	32.64	-0.44	8.18	-0.16	8.31	-0.01	50.81	0.51
20	81982	0.65	0.50	0.62	0.07	12.89	-0.28	65.05	0.50	17.83	-0.30	4.16	-0.17
21	81982	0.76	0.55	0.73	0.01	5.53	-0.21	75.93	0.55	16.55	-0.45	1.99	-0.16
22	81982	0.73	0.43	0.55	0.03	8.44	-0.24	11.87	-0.28	72.57	0.43	7.09	-0.13
23	81982	0.45	0.32	0.39	0.04	23.08	-0.20	27.86	-0.10	45.26	0.32	3.75	-0.17
24	81982	0.86	0.25	0.38	0.03	85.85	0.25	5.14	-0.16	5.26	-0.12	3.73	-0.13
25	81982	0.47	0.34	0.41	0.05	11.58	-0.17	46.50	0.34	28.66	-0.17	13.21	-0.12

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.27
Spring 2012 AIMS Classical Item Analysis
Mathematics NRT Grade 7

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81501	0.81	0.30	0.42	0.02	81.09	0.30	12.05	-0.19	1.75	-0.13	5.09	-0.17
2	81501	0.43	0.40	0.49	0.05	7.39	-0.12	43.11	0.40	20.35	-0.07	29.10	-0.31
3	81501	0.79	0.35	0.49	0.06	79.48	0.35	2.50	-0.16	3.62	-0.18	14.34	-0.24
4	81501	0.62	0.49	0.60	0.07	61.69	0.49	7.78	-0.20	11.26	-0.24	19.20	-0.28
5	81501	0.56	0.47	0.57	0.05	14.97	-0.28	7.67	-0.15	55.61	0.47	21.70	-0.23
6	81501	0.58	0.54	0.65	0.09	17.86	-0.36	14.81	-0.22	58.03	0.54	9.20	-0.17
7	81501	0.54	0.51	0.61	0.07	18.04	-0.24	14.60	-0.17	13.45	-0.30	53.84	0.51
8	81501	0.58	0.56	0.67	0.12	18.52	-0.29	15.86	-0.31	58.21	0.56	7.29	-0.19
9	81501	0.73	0.39	0.51	0.07	10.18	-0.25	73.05	0.39	12.59	-0.21	4.10	-0.15
10	81501	0.54	0.38	0.46	0.09	7.63	-0.09	54.41	0.38	25.45	-0.25	12.41	-0.17
11	81501	0.67	0.53	0.65	0.07	5.02	-0.14	66.82	0.53	13.12	-0.32	14.96	-0.30
12	81501	0.84	0.46	0.68	0.05	5.02	-0.26	5.22	-0.26	5.32	-0.23	84.38	0.46
13	81501	0.74	0.55	0.71	0.06	17.86	-0.44	74.08	0.55	4.79	-0.21	3.20	-0.15
14	81501	0.66	0.42	0.52	0.07	11.22	-0.19	12.36	-0.19	65.74	0.42	10.61	-0.24
15	81501	0.79	0.41	0.55	0.04	6.02	-0.25	78.70	0.41	8.76	-0.22	6.49	-0.19
16	81501	0.34	0.39	0.48	0.07	28.65	-0.18	29.31	-0.15	34.11	0.39	7.86	-0.13
17	81501	0.43	0.32	0.39	0.07	43.48	0.32	23.22	-0.12	13.67	-0.12	19.57	-0.16
18	81501	0.33	0.43	0.53	0.05	48.31	-0.17	7.59	-0.27	11.51	-0.13	32.55	0.43
19	81501	0.86	0.47	0.69	0.06	6.72	-0.31	85.50	0.47	4.91	-0.25	2.81	-0.20
20	81501	0.67	0.49	0.61	0.01	4.69	-0.26	10.24	-0.14	67.12	0.49	17.94	-0.34
21	81501	0.57	0.40	0.48	0.03	6.87	-0.25	15.29	-0.34	56.68	0.40	21.13	-0.03
22	81501	0.56	0.39	0.47	0.04	55.94	0.39	24.35	-0.22	14.47	-0.18	5.21	-0.18
23	81501	0.58	0.58	0.69	0.06	18.55	-0.32	15.45	-0.27	7.78	-0.24	58.16	0.58
24	81501	0.61	0.37	0.45	0.04	19.33	-0.26	60.81	0.37	14.40	-0.13	5.42	-0.14
25	81501	0.46	0.43	0.52	0.09	46.07	0.43	7.13	-0.25	20.26	-0.27	26.45	-0.09

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.28
Spring 2012 AIMS Classical Item Analysis
Mathematics NRT Grade 8

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	79958	0.75	0.43	0.57	0.06	75.38	0.43	7.05	-0.24	6.12	-0.21	11.38	-0.22
2	79958	0.71	0.45	0.57	0.06	4.39	-0.17	9.83	-0.17	70.55	0.45	15.18	-0.33
3	79958	0.52	0.42	0.50	0.11	22.48	-0.26	52.20	0.42	16.83	-0.13	8.38	-0.19
4	79958	0.58	0.43	0.53	0.03	20.76	-0.16	12.06	-0.27	9.37	-0.22	57.79	0.43
5	79958	0.71	0.41	0.52	0.04	9.03	-0.12	70.92	0.41	8.52	-0.26	11.49	-0.25
6	79958	0.35	0.31	0.38	0.07	9.98	-0.04	41.65	-0.10	13.16	-0.26	35.14	0.31
7	79958	0.77	0.40	0.53	0.01	2.47	-0.19	7.00	-0.22	76.82	0.40	13.69	-0.25
8	79958	0.60	0.44	0.53	0.09	18.63	-0.26	60.05	0.44	9.21	-0.19	12.02	-0.18
9	79958	0.65	0.44	0.55	0.05	9.12	-0.10	64.59	0.44	16.15	-0.23	10.10	-0.32
10	79958	0.67	0.54	0.67	0.06	6.08	-0.24	12.93	-0.28	13.45	-0.31	67.48	0.54
11	79958	0.54	0.38	0.47	0.08	54.23	0.38	27.39	-0.21	9.75	-0.16	8.55	-0.19
12	79958	0.39	0.31	0.38	0.07	34.04	-0.13	10.21	-0.18	16.56	-0.09	39.13	0.31
13	79958	0.58	0.36	0.44	0.04	9.06	-0.14	17.60	-0.13	57.73	0.36	15.57	-0.25
14	79958	0.79	0.41	0.56	0.04	5.56	-0.24	9.49	-0.21	79.25	0.41	5.67	-0.21
15	79958	0.76	0.43	0.58	0.04	9.40	-0.27	10.43	-0.24	76.44	0.43	3.70	-0.16
16	79958	0.30	0.34	0.43	0.05	49.37	-0.21	9.15	-0.21	30.31	0.34	11.12	0.03
17	79958	0.59	0.33	0.41	0.28	9.58	-0.17	20.85	-0.19	59.42	0.33	9.87	-0.12
18	79958	0.46	0.51	0.61	0.07	42.73	-0.39	46.14	0.51	7.59	-0.17	3.47	-0.09
19	79958	0.69	0.48	0.60	0.03	68.78	0.48	10.21	-0.17	6.05	-0.20	14.94	-0.34
20	79958	0.59	0.40	0.49	0.06	12.39	-0.14	11.31	-0.18	59.48	0.40	16.76	-0.25
21	79958	0.59	0.55	0.66	0.04	58.59	0.55	7.27	-0.27	12.96	-0.24	21.14	-0.29
22	79958	0.59	0.50	0.61	0.07	17.80	-0.34	10.73	-0.17	11.96	-0.19	59.45	0.50
23	79958	0.78	0.48	0.64	0.03	4.46	-0.19	77.66	0.48	10.93	-0.30	6.91	-0.26
24	79958	0.38	0.42	0.51	0.04	13.59	-0.24	16.22	-0.33	31.98	0.00	38.16	0.42
25	79958	0.40	0.35	0.44	0.06	36.70	-0.19	39.52	0.35	14.06	-0.12	9.66	-0.13

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.29
Spring 2012 AIMS Classical Item Analysis
Reading NRT Grade 3

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82909	0.78	0.45	0.60	0.06	6.35	-0.24	9.88	-0.24	5.26	-0.24	78.46	0.45
2	82909	0.89	0.42	0.68	0.14	5.17	-0.28	88.97	0.42	4.61	-0.25	1.12	-0.19
3	82909	0.73	0.48	0.61	0.22	14.58	-0.34	6.64	-0.21	73.03	0.48	5.53	-0.18
4	82909	0.84	0.31	0.45	0.13	2.48	-0.17	83.91	0.31	8.99	-0.18	4.50	-0.17
5	82909	0.69	0.34	0.43	0.27	68.74	0.34	9.19	-0.24	2.47	-0.26	19.33	-0.12
6	82909	0.91	0.34	0.58	0.11	90.64	0.34	3.84	-0.24	4.25	-0.17	1.16	-0.18
7	82909	0.83	0.48	0.69	0.19	5.38	-0.28	82.85	0.48	6.08	-0.25	5.50	-0.26
8	82909	0.75	0.44	0.58	0.32	8.63	-0.23	8.89	-0.29	7.23	-0.17	74.94	0.44
9	82909	0.46	0.32	0.39	0.24	23.40	-0.09	20.60	-0.15	9.81	-0.22	45.94	0.32
10	82909	0.90	0.47	0.77	0.38	89.86	0.47	2.04	-0.19	1.63	-0.23	6.08	-0.35
11	82909	0.64	0.51	0.62	0.44	13.57	-0.29	9.58	-0.28	12.29	-0.18	64.12	0.51
12	82909	0.81	0.47	0.65	0.65	80.90	0.47	4.70	-0.27	9.90	-0.25	3.85	-0.25
13	82909	0.80	0.41	0.57	0.84	8.32	-0.15	5.96	-0.28	4.46	-0.26	80.42	0.41
14	82909	0.62	0.24	0.30	0.67	62.04	0.24	11.63	-0.13	19.92	-0.05	5.75	-0.23
15	82909	0.71	0.39	0.50	0.91	9.37	-0.22	10.19	-0.17	71.43	0.39	8.10	-0.23
16	82909	0.41	0.31	0.37	0.14	21.77	-0.10	20.23	-0.14	16.54	-0.14	41.31	0.31
17	82909	0.71	0.41	0.53	0.16	8.59	-0.26	71.15	0.41	2.85	-0.23	17.25	-0.20
18	82909	0.38	0.23	0.29	0.35	28.05	-0.04	19.67	-0.14	14.23	-0.11	37.70	0.23
19	82909	0.67	0.36	0.45	0.83	15.94	-0.25	66.81	0.36	6.10	-0.19	10.31	-0.12
20	82909	0.76	0.35	0.47	1.10	76.43	0.35	10.22	-0.22	2.86	-0.20	9.40	-0.17
21	82909	0.47	0.41	0.49	0.14	16.46	-0.21	21.21	-0.27	46.70	0.41	15.51	-0.05
22	82909	0.42	0.28	0.34	0.20	24.85	-0.10	21.78	-0.10	11.30	-0.16	41.86	0.28
23	82909	0.47	0.30	0.36	0.37	21.13	-0.07	7.55	-0.23	47.11	0.30	23.83	-0.13
24	82909	0.54	0.43	0.51	0.81	17.79	-0.13	53.82	0.43	9.49	-0.31	18.09	-0.19
25	82909	0.82	0.51	0.69	1.25	5.77	-0.29	81.95	0.51	6.69	-0.29	4.34	-0.25

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.30
Spring 2012 AIMS Classical Item Analysis
Reading NRT Grade 4

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81933	0.87	0.28	0.42	0.02	86.55	0.28	1.35	-0.17	5.79	-0.19	6.29	-0.12
2	81933	0.62	0.34	0.42	0.03	62.27	0.34	2.24	-0.19	29.56	-0.22	5.91	-0.15
3	81933	0.71	0.40	0.50	0.04	19.38	-0.27	70.83	0.40	6.32	-0.17	3.43	-0.18
4	81933	0.75	0.34	0.45	0.04	20.49	-0.24	2.24	-0.17	75.46	0.34	1.77	-0.16
5	81933	0.50	0.42	0.50	0.04	50.46	0.42	16.28	-0.35	10.30	-0.14	22.93	-0.09
6	81933	0.52	0.29	0.35	0.04	29.41	-0.06	51.57	0.29	9.11	-0.16	9.87	-0.24
7	81933	0.62	0.22	0.27	0.08	17.78	-0.15	9.79	-0.14	61.84	0.22	10.50	-0.02
8	81933	0.90	0.37	0.61	0.06	89.96	0.37	3.89	-0.26	3.94	-0.18	2.16	-0.16
9	81933	0.86	0.40	0.59	0.05	2.52	-0.20	8.04	-0.24	85.58	0.40	3.82	-0.21
10	81933	0.72	0.46	0.59	0.07	8.35	-0.24	13.56	-0.25	5.86	-0.23	72.16	0.46
11	81933	0.72	0.42	0.55	0.08	15.47	-0.16	5.14	-0.29	6.82	-0.27	72.49	0.42
12	81933	0.28	0.22	0.29	0.07	52.35	-0.03	12.49	-0.08	27.64	0.22	7.45	-0.21
13	81933	0.60	0.48	0.58	0.04	14.32	-0.26	18.92	-0.24	6.42	-0.22	60.29	0.48
14	81933	0.54	0.32	0.39	0.06	9.37	-0.09	32.85	-0.19	53.81	0.32	3.90	-0.23
15	81933	0.77	0.43	0.57	0.07	13.07	-0.21	76.65	0.43	6.18	-0.27	4.03	-0.24
16	81933	0.61	0.50	0.61	0.08	19.26	-0.31	10.00	-0.23	9.65	-0.18	61.02	0.50
17	81933	0.42	0.20	0.25	0.10	37.91	-0.01	42.36	0.20	13.70	-0.13	5.93	-0.22
18	81933	0.56	0.30	0.37	0.07	6.22	-0.31	33.84	-0.06	3.47	-0.24	56.39	0.30
19	81933	0.62	0.47	0.57	0.16	14.59	-0.26	61.54	0.47	17.03	-0.20	6.67	-0.24
20	81933	0.87	0.49	0.74	0.07	4.53	-0.29	3.71	-0.24	4.76	-0.27	86.93	0.49
21	81933	0.70	0.51	0.64	0.08	7.75	-0.32	70.06	0.51	14.48	-0.27	7.63	-0.20
22	81933	0.83	0.37	0.54	0.06	6.55	-0.24	4.29	-0.22	83.25	0.37	5.84	-0.15
23	81933	0.40	0.28	0.35	0.04	6.13	-0.30	30.03	-0.06	23.82	-0.09	39.99	0.28
24	81933	0.56	0.33	0.40	0.07	21.48	-0.10	56.34	0.33	14.13	-0.16	7.98	-0.24
25	81933	0.73	0.53	0.68	0.09	5.00	-0.24	72.84	0.53	6.45	-0.28	15.62	-0.32

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.31
Spring 2012 AIMS Classical Item Analysis
Reading NRT Grade 5

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82383	0.63	0.38	0.46	0.03	9.01	-0.33	4.63	-0.28	23.32	-0.07	63.01	0.38
2	82383	0.73	0.45	0.57	0.04	10.71	-0.32	73.16	0.45	6.98	-0.16	9.11	-0.20
3	82383	0.81	0.46	0.64	0.02	11.66	-0.30	81.11	0.46	3.34	-0.19	3.87	-0.25
4	82383	0.47	0.24	0.30	0.04	47.39	0.24	4.18	-0.22	43.60	-0.05	4.78	-0.24
5	82383	0.76	0.45	0.58	0.04	10.93	-0.18	5.15	-0.29	75.58	0.45	8.31	-0.26
6	82383	0.42	0.16	0.20	0.05	10.73	-0.14	30.31	0.08	42.28	0.16	16.62	-0.20
7	82383	0.70	0.56	0.69	0.04	10.00	-0.25	14.01	-0.30	5.82	-0.31	70.13	0.56
8	82383	0.65	0.40	0.49	0.04	17.53	-0.25	15.52	-0.19	65.22	0.40	1.69	-0.18
9	82383	0.62	0.26	0.32	0.05	10.70	-0.18	15.45	-0.08	61.76	0.26	12.04	-0.13
10	82383	0.64	0.21	0.26	0.02	5.74	-0.17	11.00	-0.20	63.58	0.21	19.67	0.00
11	82383	0.65	0.39	0.49	0.05	7.05	-0.29	65.40	0.39	9.58	-0.22	17.92	-0.13
12	82383	0.83	0.38	0.56	0.04	4.26	-0.18	8.37	-0.22	83.12	0.38	4.21	-0.24
13	82383	0.40	0.28	0.35	0.05	23.17	-0.23	10.55	-0.23	40.00	0.28	26.22	0.07
14	82383	0.68	0.37	0.47	0.04	68.20	0.37	11.79	-0.20	7.33	-0.26	12.64	-0.13
15	82383	0.50	0.14	0.17	0.03	3.02	-0.26	25.57	-0.09	21.32	0.03	50.07	0.14
16	82383	0.77	0.45	0.60	0.06	76.52	0.45	6.59	-0.29	9.93	-0.31	6.89	-0.12
17	82383	0.66	0.41	0.51	0.04	5.71	-0.29	9.40	-0.24	18.55	-0.15	66.30	0.41
18	82383	0.74	0.51	0.65	0.08	4.63	-0.27	17.62	-0.33	74.05	0.51	3.62	-0.22
19	82383	0.57	0.36	0.44	0.06	56.63	0.36	14.76	-0.18	12.08	-0.24	16.48	-0.10
20	82383	0.78	0.48	0.65	0.11	10.33	-0.30	78.50	0.48	7.07	-0.26	3.99	-0.21
21	82383	0.78	0.47	0.62	0.02	6.64	-0.29	8.03	-0.21	7.46	-0.24	77.85	0.47
22	82383	0.62	0.33	0.41	0.02	26.29	-0.13	4.77	-0.22	62.32	0.33	6.61	-0.23
23	82383	0.63	0.17	0.21	0.05	17.76	0.03	63.41	0.17	15.51	-0.18	3.26	-0.16
24	82383	0.74	0.39	0.51	0.03	74.36	0.39	4.91	-0.27	12.66	-0.18	8.05	-0.19
25	82383	0.83	0.40	0.56	0.05	10.97	-0.20	82.58	0.40	2.70	-0.21	3.71	-0.28

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.32
Spring 2012 AIMS Classical Item Analysis
Reading NRT Grade 6

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82027	0.87	0.37	0.58	0.02	4.83	-0.18	3.49	-0.24	87.31	0.37	4.36	-0.21
2	82027	0.74	0.35	0.46	0.03	10.35	-0.16	6.17	-0.26	8.99	-0.14	74.46	0.35
3	82027	0.57	0.28	0.34	0.06	28.04	-0.08	56.67	0.28	4.59	-0.22	10.65	-0.19
4	82027	0.97	0.26	0.61	0.03	1.46	-0.17	0.51	-0.11	96.70	0.26	1.30	-0.15
5	82027	0.49	0.31	0.37	0.07	3.71	-0.22	7.25	-0.13	48.55	0.31	40.42	-0.16
6	82027	0.67	0.31	0.39	0.06	24.42	-0.16	6.16	-0.21	66.58	0.31	2.78	-0.19
7	82027	0.77	0.38	0.50	0.08	6.98	-0.20	77.04	0.38	4.56	-0.23	11.34	-0.19
8	82027	0.29	0.10	0.13	0.14	54.55	0.09	9.88	-0.13	6.48	-0.21	28.94	0.10
9	82027	0.68	0.47	0.58	0.05	10.24	-0.21	8.64	-0.24	12.63	-0.26	68.43	0.47
10	82027	0.62	0.39	0.47	0.09	12.27	-0.26	11.02	-0.20	62.26	0.39	14.36	-0.11
11	82027	0.65	0.29	0.36	0.02	9.84	-0.22	10.49	-0.25	64.65	0.29	15.00	0.01
12	82027	0.51	0.27	0.32	0.06	51.24	0.27	4.31	-0.26	32.16	-0.05	12.24	-0.18
13	82027	0.75	0.47	0.60	0.05	74.70	0.47	3.91	-0.24	10.92	-0.22	10.42	-0.29
14	82027	0.50	0.33	0.40	0.04	24.37	-0.07	17.99	-0.20	7.49	-0.23	50.12	0.33
15	82027	0.82	0.51	0.72	0.03	5.78	-0.27	5.68	-0.29	81.98	0.51	6.52	-0.27
16	82027	0.50	0.29	0.35	0.03	18.99	-0.23	50.10	0.29	7.70	-0.22	23.17	0.01
17	82027	0.68	0.36	0.45	0.05	16.17	-0.23	67.70	0.36	9.19	-0.15	6.88	-0.16
18	82027	0.58	0.20	0.24	0.06	58.04	0.20	9.97	-0.21	11.38	-0.13	20.56	0.02
19	82027	0.69	0.21	0.27	0.04	18.82	-0.02	6.74	-0.21	5.78	-0.14	68.61	0.21
20	82027	0.77	0.33	0.43	0.03	13.12	-0.16	76.58	0.33	3.43	-0.22	6.84	-0.17
21	82027	0.85	0.39	0.58	0.04	85.35	0.39	5.84	-0.23	4.62	-0.23	4.15	-0.18
22	82027	0.51	0.22	0.26	0.03	51.42	0.22	7.69	-0.22	23.11	-0.12	17.74	0.01
23	82027	0.25	0.12	0.16	0.05	7.50	-0.25	54.51	0.07	12.51	-0.06	25.42	0.12
24	82027	0.76	0.35	0.46	0.05	9.21	-0.23	7.12	-0.17	75.65	0.35	7.97	-0.14
25	82027	0.68	0.32	0.40	0.02	67.73	0.32	9.92	-0.18	9.52	-0.19	12.81	-0.12

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.33
Spring 2012 AIMS Classical Item Analysis
Reading NRT Grade 7

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81527	0.90	0.38	0.61	0.02	7.27	-0.29	2.14	-0.19	89.52	0.38	1.05	-0.13
2	81527	0.70	0.12	0.15	0.04	70.03	0.12	17.63	0.02	5.14	-0.15	7.15	-0.10
3	81527	0.90	0.32	0.54	0.01	3.21	-0.15	90.38	0.32	4.40	-0.17	2.00	-0.23
4	81527	0.75	0.34	0.44	0.06	74.65	0.34	7.58	-0.20	10.63	-0.15	7.08	-0.19
5	81527	0.69	0.29	0.37	0.04	16.25	-0.19	68.87	0.29	3.17	-0.22	11.68	-0.08
6	81527	0.71	0.36	0.46	0.05	8.01	-0.19	13.52	-0.21	70.81	0.36	7.61	-0.15
7	81527	0.67	0.29	0.37	0.06	19.33	-0.11	5.61	-0.19	8.03	-0.19	66.98	0.29
8	81527	0.62	0.21	0.26	0.05	18.15	-0.01	62.42	0.21	7.37	-0.17	12.01	-0.17
9	81527	0.54	0.17	0.21	0.05	5.98	-0.19	17.34	-0.17	22.86	0.05	53.76	0.17
10	81527	0.60	0.22	0.27	0.19	59.77	0.22	12.23	-0.10	3.83	-0.21	23.98	-0.08
11	81527	0.47	0.28	0.34	0.03	47.19	0.28	34.59	-0.07	7.44	-0.25	10.75	-0.13
12	81527	0.26	0.23	0.30	0.05	60.50	0.03	7.06	-0.28	6.16	-0.19	26.24	0.23
13	81527	0.64	0.33	0.41	0.05	7.95	-0.20	19.44	-0.16	63.90	0.33	8.66	-0.14
14	81527	0.54	0.21	0.26	0.06	9.77	-0.14	54.23	0.21	21.61	-0.05	14.33	-0.12
15	81527	0.89	0.46	0.73	0.06	4.26	-0.26	88.70	0.46	4.63	-0.28	2.35	-0.23
16	81527	0.72	0.37	0.48	0.07	10.22	-0.24	13.12	-0.11	5.10	-0.26	71.51	0.37
17	81527	0.39	0.28	0.34	0.02	47.96	-0.06	5.70	-0.22	38.93	0.28	7.40	-0.20
18	81527	0.42	0.31	0.38	0.04	35.16	-0.13	41.91	0.31	11.03	-0.10	11.85	-0.18
19	81527	0.80	0.37	0.52	0.04	4.38	-0.24	6.39	-0.21	8.99	-0.17	80.19	0.37
20	81527	0.59	0.36	0.44	0.04	6.97	-0.28	28.36	-0.13	5.49	-0.23	59.14	0.36
21	81527	0.77	0.43	0.57	0.05	76.65	0.43	3.14	-0.24	6.21	-0.27	13.95	-0.21
22	81527	0.84	0.50	0.73	0.05	4.08	-0.25	2.77	-0.24	8.72	-0.33	84.39	0.50
23	81527	0.83	0.49	0.68	0.05	8.54	-0.29	5.21	-0.24	82.55	0.49	3.65	-0.26
24	81527	0.76	0.36	0.48	0.02	3.11	-0.24	76.44	0.36	10.38	-0.22	10.05	-0.14
25	81527	0.51	0.37	0.45	0.04	8.42	-0.25	21.15	-0.22	51.15	0.37	19.24	-0.06

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.34
Spring 2012 AIMS Classical Item Analysis
Reading NRT Grade 8

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	79961	0.57	0.24	0.29	0.04	16.94	-0.08	22.30	-0.14	3.65	-0.16	57.07	0.24
2	79961	0.74	0.38	0.49	0.02	3.75	-0.19	19.05	-0.27	73.65	0.38	3.52	-0.14
3	79961	0.84	0.30	0.43	0.04	3.29	-0.18	10.25	-0.17	2.28	-0.17	84.15	0.30
4	79961	0.86	0.27	0.41	0.06	5.40	-0.11	85.77	0.27	2.43	-0.17	6.35	-0.18
5	79961	0.92	0.22	0.40	0.01	3.89	-0.12	92.15	0.22	2.70	-0.11	1.25	-0.17
6	79961	0.49	0.20	0.24	0.04	7.65	-0.13	11.01	0.01	32.31	-0.15	48.98	0.20
7	79961	0.80	0.28	0.39	0.07	14.08	-0.16	4.43	-0.19	79.92	0.28	1.50	-0.15
8	79961	0.50	0.24	0.29	0.03	50.28	0.24	29.48	-0.11	15.02	-0.11	5.19	-0.14
9	79961	0.77	0.32	0.42	0.03	6.40	-0.15	77.15	0.32	8.47	-0.12	7.95	-0.23
10	79961	0.90	0.36	0.60	0.03	3.37	-0.17	5.21	-0.25	89.99	0.36	1.40	-0.18
11	79961	0.76	0.32	0.42	0.05	10.37	-0.06	5.75	-0.18	7.80	-0.27	76.03	0.32
12	79961	0.61	0.23	0.29	0.03	14.85	-0.11	19.61	-0.08	61.36	0.23	4.15	-0.21
13	79961	0.48	0.22	0.27	0.04	47.75	0.22	3.51	-0.26	45.88	-0.06	2.82	-0.21
14	79961	0.79	0.34	0.46	0.02	3.56	-0.20	4.16	-0.23	79.24	0.34	13.02	-0.16
15	79961	0.46	0.24	0.29	0.05	14.73	0.05	14.99	-0.14	24.05	-0.20	46.19	0.24
16	79961	0.45	0.26	0.31	0.10	44.94	0.26	14.32	-0.20	16.46	-0.11	24.19	-0.05
17	79961	0.94	0.34	0.66	0.02	1.62	-0.17	1.33	-0.19	2.96	-0.21	94.08	0.34
18	79961	0.76	0.42	0.55	0.03	12.43	-0.21	5.95	-0.23	76.22	0.42	5.37	-0.23
19	79961	0.42	0.23	0.28	0.02	23.72	-0.09	42.23	0.23	5.74	-0.12	28.29	-0.11
20	79961	0.55	0.28	0.33	0.04	30.51	-0.06	9.00	-0.21	5.50	-0.21	54.95	0.28
21	79961	0.66	0.32	0.40	0.05	10.84	-0.22	66.10	0.32	20.17	-0.11	2.85	-0.22
22	79961	0.78	0.42	0.57	0.04	3.89	-0.25	4.05	-0.26	78.39	0.42	13.63	-0.21
23	79961	0.73	0.34	0.44	0.04	16.07	-0.19	72.66	0.34	6.77	-0.19	4.46	-0.16
24	79961	0.76	0.48	0.62	0.03	76.25	0.48	10.34	-0.24	8.99	-0.27	4.40	-0.27
25	79961	0.85	0.43	0.64	0.05	5.57	-0.25	5.56	-0.23	3.81	-0.23	85.02	0.43

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.35
Spring 2012 AIMS Classical Item Analysis
Language NRT Grade 3

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82909	0.92	0.29	0.52	0.23	2.48	-0.22	91.82	0.29	2.08	-0.17	3.39	-0.11
2	82909	0.75	0.29	0.39	0.69	4.04	-0.24	3.18	-0.25	74.95	0.29	17.15	-0.09
3	82909	0.78	0.33	0.45	0.43	77.50	0.33	4.24	-0.23	6.58	-0.27	11.25	-0.08
4	82909	0.46	0.35	0.42	0.78	11.54	-0.37	35.60	-0.01	5.63	-0.24	46.45	0.35
5	82909	0.49	0.30	0.36	0.29	17.33	-0.22	8.08	-0.32	49.17	0.30	25.14	0.05
6	82909	0.74	0.38	0.49	0.40	3.70	-0.26	74.09	0.38	13.83	-0.22	7.98	-0.14
7	82909	0.67	0.47	0.58	0.49	14.39	-0.24	9.72	-0.26	8.05	-0.21	67.35	0.47
8	82909	0.85	0.45	0.68	0.52	85.50	0.45	3.53	-0.26	5.39	-0.28	5.06	-0.21
9	82909	0.63	0.48	0.58	0.67	16.87	-0.17	12.66	-0.33	6.95	-0.23	62.85	0.48
10	82909	0.37	0.23	0.28	0.65	21.89	-0.23	37.35	0.23	10.38	-0.18	29.73	0.09
11	82909	0.51	0.39	0.46	0.06	7.39	-0.20	11.26	-0.18	30.60	-0.19	50.69	0.39
12	82909	0.59	0.38	0.46	0.14	15.44	-0.14	9.81	-0.25	16.03	-0.18	58.58	0.38
13	82909	0.59	0.37	0.44	0.79	6.90	-0.27	22.71	-0.13	11.06	-0.18	58.54	0.37
14	82909	0.73	0.47	0.60	0.53	6.86	-0.28	8.43	-0.27	73.06	0.47	11.12	-0.20
15	82909	0.44	0.27	0.32	0.60	11.98	-0.30	24.11	-0.04	19.44	-0.04	43.87	0.27
16	82909	0.71	0.39	0.50	0.48	70.94	0.39	8.74	-0.27	14.48	-0.16	5.36	-0.20
17	82909	0.52	0.31	0.38	1.05	11.30	-0.21	51.89	0.31	16.79	-0.16	18.98	-0.08
18	82909	0.67	0.28	0.36	0.88	7.07	-0.20	20.22	-0.08	67.11	0.28	4.72	-0.24
19	82909	0.49	0.31	0.37	0.56	35.58	-0.13	10.17	-0.17	49.11	0.31	4.59	-0.20
20	82909	0.45	0.30	0.36	0.81	13.52	-0.18	18.24	-0.09	44.88	0.30	22.55	-0.12

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.36
Spring 2012 AIMS Classical Item Analysis
Language NRT Grade 4

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81933	0.88	0.47	0.73	0.08	6.34	-0.31	3.27	-0.23	2.38	-0.22	87.94	0.47
2	81933	0.50	0.28	0.33	0.06	9.10	-0.24	14.46	-0.11	49.81	0.28	26.56	-0.06
3	81933	0.81	0.40	0.54	0.07	11.68	-0.16	3.69	-0.27	3.87	-0.27	80.68	0.40
4	81933	0.46	0.31	0.37	0.05	17.37	-0.06	46.15	0.31	21.08	-0.11	15.35	-0.24
5	81933	0.66	0.35	0.44	0.09	66.22	0.35	4.59	-0.30	5.31	-0.21	23.79	-0.13
6	81933	0.46	0.32	0.38	0.13	5.28	-0.28	46.45	0.32	9.59	-0.27	38.55	-0.04
7	81933	0.77	0.44	0.58	0.09	76.87	0.44	3.70	-0.26	8.67	-0.25	10.67	-0.22
8	81933	0.68	0.47	0.57	0.07	6.56	-0.26	68.37	0.47	7.38	-0.24	17.62	-0.24
9	81933	0.68	0.36	0.45	0.13	15.39	-0.22	4.61	-0.25	12.28	-0.11	67.59	0.36
10	81933	0.63	0.26	0.32	0.04	63.03	0.26	7.03	-0.17	3.13	-0.25	26.77	-0.08
11	81933	0.79	0.45	0.61	0.02	11.33	-0.27	4.22	-0.22	5.15	-0.24	79.29	0.45
12	81933	0.69	0.38	0.47	0.04	13.81	-0.16	69.06	0.38	5.52	-0.26	11.58	-0.18
13	81933	0.69	0.40	0.50	0.05	15.25	-0.21	69.42	0.40	5.11	-0.17	10.18	-0.23
14	81933	0.53	0.26	0.32	0.08	14.34	-0.23	6.11	-0.27	26.88	0.03	52.59	0.26
15	81933	0.81	0.45	0.61	0.06	80.62	0.45	4.71	-0.28	7.30	-0.23	7.30	-0.23
16	81933	0.88	0.46	0.72	0.09	87.98	0.46	4.68	-0.26	4.20	-0.26	3.06	-0.25
17	81933	0.61	0.30	0.36	0.04	8.17	-0.23	23.55	-0.05	61.18	0.30	7.05	-0.23
18	81933	0.83	0.50	0.71	0.07	8.07	-0.31	83.46	0.50	5.21	-0.28	3.20	-0.23
19	81933	0.80	0.47	0.63	0.07	79.50	0.47	6.21	-0.27	6.72	-0.28	7.50	-0.20
20	81933	0.56	0.35	0.42	0.07	12.94	-0.26	24.87	-0.08	55.61	0.35	6.51	-0.22

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.37
Spring 2012 AIMS Classical Item Analysis
Language NRT Grade 5

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82383	0.92	0.38	0.69	0.04	4.77	-0.27	0.95	-0.17	1.86	-0.19	92.38	0.38
2	82383	0.78	0.34	0.45	0.04	77.88	0.34	9.74	-0.16	1.95	-0.22	10.38	-0.21
3	82383	0.66	0.35	0.43	0.05	66.49	0.35	19.35	-0.09	3.28	-0.24	10.83	-0.27
4	82383	0.81	0.37	0.50	0.03	3.60	-0.16	12.52	-0.22	3.31	-0.24	80.55	0.37
5	82383	0.55	0.21	0.25	0.04	35.64	-0.03	3.90	-0.20	5.39	-0.21	55.04	0.21
6	82383	0.70	0.22	0.28	0.08	8.48	-0.18	12.20	-0.01	69.54	0.22	9.71	-0.16
7	82383	0.57	0.33	0.40	0.02	5.92	-0.23	57.19	0.33	7.67	-0.24	29.20	-0.10
8	82383	0.68	0.34	0.42	0.04	6.46	-0.24	68.48	0.34	5.92	-0.15	19.11	-0.16
9	82383	0.65	0.30	0.38	0.04	2.57	-0.18	65.38	0.30	21.39	-0.20	10.62	-0.11
10	82383	0.61	0.40	0.48	0.03	5.74	-0.26	8.77	-0.24	60.70	0.40	24.77	-0.15
11	82383	0.77	0.36	0.47	0.00	14.66	-0.20	76.89	0.36	2.40	-0.17	6.04	-0.23
12	82383	0.60	0.40	0.48	0.03	13.85	-0.21	59.85	0.40	5.90	-0.22	20.36	-0.19
13	82383	0.65	0.34	0.42	0.04	7.62	-0.17	15.18	-0.14	64.91	0.34	12.26	-0.21
14	82383	0.79	0.46	0.61	0.06	7.47	-0.24	3.38	-0.26	10.16	-0.25	78.92	0.46
15	82383	0.81	0.41	0.57	0.02	81.02	0.41	4.88	-0.24	5.32	-0.23	8.76	-0.20
16	82383	0.68	0.43	0.53	0.02	6.45	-0.22	17.47	-0.20	68.10	0.43	7.96	-0.25
17	82383	0.61	0.40	0.48	0.04	60.70	0.40	11.43	-0.27	22.05	-0.13	5.78	-0.24
18	82383	0.74	0.43	0.55	0.03	73.76	0.43	9.02	-0.26	8.71	-0.24	8.48	-0.17
19	82383	0.70	0.44	0.55	0.04	8.33	-0.27	13.93	-0.24	70.44	0.44	7.27	-0.16
20	82383	0.59	0.39	0.46	0.04	15.95	-0.19	59.09	0.39	17.78	-0.15	7.14	-0.24

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.38
Spring 2012 AIMS Classical Item Analysis
Language NRT Grade 6

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	82027	0.80	0.35	0.48	0.04	2.74	-0.14	8.49	-0.20	80.43	0.35	8.30	-0.21
2	82027	0.68	0.14	0.18	0.02	68.01	0.14	11.92	-0.09	3.00	-0.16	17.04	-0.03
3	82027	0.84	0.34	0.49	0.03	5.49	-0.15	3.34	-0.18	83.71	0.34	7.44	-0.22
4	82027	0.55	0.31	0.37	0.03	55.23	0.31	2.03	-0.21	15.06	-0.18	27.65	-0.13
5	82027	0.92	0.31	0.55	0.02	0.79	-0.16	0.88	-0.17	91.65	0.31	6.65	-0.23
6	82027	0.30	0.30	0.38	0.04	60.31	-0.10	6.39	-0.29	3.08	-0.11	30.19	0.30
7	82027	0.95	0.31	0.62	0.01	0.79	-0.14	94.62	0.31	1.41	-0.15	3.17	-0.23
8	82027	0.83	0.36	0.50	0.04	82.53	0.36	6.43	-0.16	6.33	-0.16	4.68	-0.28
9	82027	0.69	0.18	0.24	0.01	3.07	-0.20	1.49	-0.20	69.40	0.18	26.02	-0.06
10	82027	0.79	0.44	0.58	0.02	78.75	0.44	8.69	-0.27	3.05	-0.18	9.49	-0.24
11	82027	0.73	0.37	0.47	0.01	6.00	-0.23	7.54	-0.19	72.97	0.37	13.48	-0.17
12	82027	0.82	0.36	0.52	0.02	3.35	-0.23	82.47	0.36	2.72	-0.23	11.44	-0.19
13	82027	0.64	0.30	0.37	0.04	63.68	0.30	9.30	-0.19	13.80	-0.17	13.18	-0.10
14	82027	0.68	0.33	0.41	0.03	4.14	-0.17	24.87	-0.19	2.64	-0.22	68.32	0.33
15	82027	0.79	0.38	0.51	0.04	78.57	0.38	5.16	-0.18	5.01	-0.21	11.21	-0.22
16	82027	0.79	0.46	0.62	0.03	7.53	-0.25	79.25	0.46	5.47	-0.23	7.72	-0.26
17	82027	0.61	0.36	0.43	0.09	12.07	-0.19	15.24	-0.22	60.81	0.36	11.78	-0.10
18	82027	0.70	0.42	0.52	0.02	6.56	-0.28	17.83	-0.17	5.57	-0.25	70.02	0.42
19	82027	0.81	0.41	0.57	0.03	4.24	-0.25	81.06	0.41	5.59	-0.26	9.08	-0.18
20	82027	0.59	0.39	0.46	0.06	10.94	-0.20	18.97	-0.12	11.45	-0.25	58.58	0.39

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.39
Spring 2012 AIMS Classical Item Analysis
Language NRT Grade 7

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	81527	0.76	0.37	0.49	0.06	76.10	0.37	3.52	-0.23	6.41	-0.25	13.91	-0.16
2	81527	0.66	0.49	0.59	0.05	5.41	-0.22	19.31	-0.30	9.14	-0.21	66.09	0.49
3	81527	0.77	0.43	0.56	0.06	6.41	-0.18	77.04	0.43	5.12	-0.23	11.38	-0.26
4	81527	0.82	0.40	0.57	0.04	3.17	-0.23	2.48	-0.24	82.25	0.40	12.07	-0.23
5	81527	0.58	0.21	0.26	0.07	10.23	-0.23	6.42	-0.08	57.93	0.21	25.35	-0.04
6	81527	0.68	0.42	0.51	0.07	67.83	0.42	9.37	-0.25	2.66	-0.24	20.06	-0.21
7	81527	0.82	0.37	0.52	0.07	7.89	-0.19	3.72	-0.22	81.94	0.37	6.39	-0.20
8	81527	0.35	0.20	0.24	0.06	35.45	0.20	13.47	-0.19	3.97	-0.24	47.06	0.04
9	81527	0.75	0.36	0.47	0.05	16.08	-0.15	3.53	-0.26	75.24	0.36	5.10	-0.23
10	81527	0.31	0.32	0.41	0.06	56.94	-0.03	31.06	0.32	4.03	-0.28	7.91	-0.29
11	81527	0.84	0.33	0.48	0.01	11.32	-0.25	2.09	-0.15	83.99	0.33	2.60	-0.13
12	81527	0.55	0.24	0.29	0.02	54.65	0.24	6.34	-0.14	5.11	-0.22	33.88	-0.08
13	81527	0.65	0.27	0.33	0.03	65.35	0.27	9.82	-0.10	9.11	-0.17	15.70	-0.13
14	81527	0.59	0.33	0.40	0.02	20.57	-0.30	16.98	-0.01	3.55	-0.19	58.88	0.33
15	81527	0.82	0.41	0.58	0.03	2.69	-0.19	4.08	-0.25	10.97	-0.25	82.23	0.41
16	81527	0.73	0.42	0.54	0.01	10.61	-0.26	8.89	-0.20	7.05	-0.19	73.43	0.42
17	81527	0.84	0.33	0.48	0.02	83.59	0.33	3.08	-0.17	2.94	-0.18	10.37	-0.21
18	81527	0.83	0.40	0.56	0.03	6.49	-0.25	8.51	-0.21	82.65	0.40	2.32	-0.19
19	81527	0.68	0.32	0.40	0.02	15.16	-0.22	14.10	-0.14	68.11	0.32	2.61	-0.15
20	81527	0.61	0.34	0.42	0.02	7.35	-0.25	7.00	-0.19	24.15	-0.13	61.47	0.34

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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Table 6.3.40
Spring 2012 AIMS Classical Item Analysis
Language NRT Grade 8

Item	N	P-Value	rpb	rbi	% Omit	Option A		Option B		Option C		Option D	
						%	rpb	%	rpb	%	rpb	%	rpb
1	79961	0.91	0.31	0.52	0.03	2.26	-0.22	1.46	-0.19	90.70	0.31	5.55	-0.15
2	79961	0.72	0.32	0.40	0.03	25.00	-0.22	1.16	-0.18	71.84	0.32	1.97	-0.19
3	79961	0.87	0.32	0.49	0.04	87.24	0.32	2.02	-0.20	3.42	-0.23	7.28	-0.14
4	79961	0.68	0.29	0.36	0.03	4.26	-0.20	2.23	-0.22	67.62	0.29	25.86	-0.14
5	79961	0.82	0.23	0.32	0.04	3.21	-0.21	82.04	0.23	2.06	-0.16	12.66	-0.08
6	79961	0.75	0.39	0.51	0.03	6.10	-0.28	75.13	0.39	4.78	-0.19	13.97	-0.18
7	79961	0.73	0.38	0.48	0.04	17.25	-0.23	4.99	-0.20	4.35	-0.19	73.37	0.38
8	79961	0.60	0.17	0.21	0.03	5.08	-0.12	59.84	0.17	12.02	-0.12	23.02	-0.04
9	79961	0.47	0.33	0.39	0.04	23.47	-0.20	12.72	-0.12	46.63	0.33	17.14	-0.11
10	79961	0.71	0.16	0.21	0.05	22.13	-0.04	2.63	-0.19	3.82	-0.13	71.37	0.16
11	79961	0.60	0.22	0.27	0.01	3.06	-0.11	18.52	-0.12	59.93	0.22	18.48	-0.11
12	79961	0.64	0.32	0.38	0.02	64.06	0.32	10.14	-0.18	11.95	-0.17	13.82	-0.13
13	79961	0.84	0.38	0.55	0.02	6.17	-0.20	5.22	-0.22	84.01	0.38	4.59	-0.21
14	79961	0.75	0.27	0.36	0.03	74.92	0.27	3.56	-0.15	6.72	-0.19	14.76	-0.12
15	79961	0.71	0.38	0.48	0.01	14.45	-0.23	71.23	0.38	3.65	-0.14	10.66	-0.22
16	79961	0.77	0.22	0.30	0.02	3.34	-0.23	76.96	0.22	1.38	-0.20	18.30	-0.07
17	79961	0.62	0.34	0.41	0.02	3.70	-0.13	30.14	-0.21	3.83	-0.23	62.30	0.34
18	79961	0.85	0.37	0.54	0.02	6.73	-0.23	3.70	-0.19	85.01	0.37	4.54	-0.18
19	79961	0.58	0.29	0.34	0.04	57.75	0.29	7.88	-0.19	20.02	-0.04	14.32	-0.21
20	79961	0.78	0.42	0.55	0.06	8.33	-0.26	6.50	-0.16	6.82	-0.24	78.30	0.42

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple-choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

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PART 7: CALIBRATION, SCALING AND EQUATING

Part 7 of the technical report describes calibration and scaling procedures and results for the Spring 2012 AIMS assessments. All grade levels and content areas were calibrated and scaled with calibration samples that typically consisted of the entire student population. Part 7 of this report addresses the following AERA/APA/NCME standards: 1.13, 2.1, 2.2, 2.14, 4.1, 4.2, 4.3, 6.4, 6.5, and 13.6. Also note that the Fall 2011 AIMS assessment is described in Appendix A.

7.1 Ensuring Valid Records in Calibration Sample

In order to ensure valid calibration results, several data cleaning steps occurred upon receipt of raw data from the scanning and scoring processes. These steps allowed for calibration to be conducted on valid student responses at the targeted grade level. Records for students taking all field test forms of the tests were included.

The cleaning process removed the following records from the calibration datasets for each content area and grade level:

- records with invalid tests noted by a special invalidation code obtained from ADE and marked on the answer document;
- records with non-valid attempts noted by less than one response in any of the test sessions;
- records for Bureau of Indian Affairs schools, juvenile corrections centers, state hospital schools, private schools, and home schooled students;
- records for students in cohorts other than 2014(high school tests only);
- records which indicated the student took a test other than their grade level test; and
- duplicate records (score sheets were double scanned or students indicated as taking the test more than one time).

7.2 Calibration Methods

Item Response Theory (IRT) models were used in the item calibration for all AIMS Reading, Writing, Mathematics, and Science tests. All tests were calibrated separately by grade and content area. All calibration activities were replicated by ADE staff as an added quality control check.

7.2.1 Calibration Model

The AIMS mathematics, reading, and science criterion-reference components are composed of multiple-choice items. All Arizona items and selected Stanford 10 items that served dual purposes in reading and mathematics contributed to the AIMS CRT scores and were calibrated using the Rasch model to create the CRT scale. Historically, the AIMS mathematics, reading, and science CRT components have been developed and calibrated using the Rasch Model. The Rasch model (Rasch, 1960; Wright, 1977) can be conceptualized as a one-parameter IRT (1PL) model in which item difficulty and student ability are estimated on the same scale. The Rasch model defines a multiple-choice item in terms of one parameter: item difficulty. In the Rasch model, the probability that a student with an ability estimate (θ) responds correctly to item i is:

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$$P_i(\theta) = \frac{\exp(\theta - b_i)}{1 + \exp(\theta - b_i)},$$

where b_i is the item difficulty.

The criterion-reference components of the AIMS Writing tests in Grades 5, 6, 7 and high school are composed of multiple-choice items (both Arizona items and NRT dual purpose items at the elementary level) and one extended response essay scored on a six-point scale. The Rasch model is not applicable in this case, so the Partail Credit Model (Masters, 1982; Wright & Stone, 1979) is used to create the CRT scale. The Partial Credit model is an extension of the Rasch model designed for use with items that have multiple response categories. The PCM reduces to the Rasch model for items with only two response categories, such as multiple-choice items. For an item involving m_i score categories, the general expression for the probability of scoring x on item i is given by:

$$P_{xi} = \exp\sum_{j=0}^{x}\left(\theta - D_{ij}\right) / \sum_{k=0}^{m_i}\left[\exp\sum_{j=0}^{k}\left(\theta - D_{ij}\right)\right] \qquad (6.1)$$

where $x = 0, 1, ..., m_i$, and by definition, $\sum_{j=0}^{0}\left(\theta - D_{ij}\right) = 0$.

The above equation gives the probability of scoring x on the i-th test item as a function of ability (θ) and the difficulty (D_{ij}) of the m_i steps of the task. According to this model, the probability of an examinee scoring in a particular category is the sum of the logit (log-odds) differences between θ and D_{ij} of all the completed steps, divided by the sum of the differences of all the steps of a task.

Norm-reference scores are reported based on the students' performance on the NRT component, and items contributing to the AIMS norm-referenced component were calibrated with the Rasch model. Norm-referenced items were calibrated during the national standardization of the Stanford 10 using the Rasch model, and the parameters used for scoring the AIMS NRT were those obtained during this standardization.

7.2.2 Calibration Software

Parameter estimation for items on the criterion-referenced tests was implemented using Winsteps 3.69.1 (Linacre, 2009). Winsteps uses joint maximum likelihood estimation (JMLE) as described by Wright and Masters (1982). Item parameters for the NRT assessment were obtained from the Stanford 10 standardization.

7.3 Calibration Results

7.3.1 IRT Item Statistics

Item statistics resulting from calibration of the AIMS CRT tests for all subjects are presented in Tables 7.3.1.1 through 7.3.1.22. All items for all AIMS tests converged during calibration using typical procedures for Winsteps software. Standard error of estimates for the Rasch difficulty measures indicated that the parameters were well estimated. Model-to-item data fit was monitored using weighted mean-square (MNSQ) and unweighted MNSQ statistics, which indicate the degree of accuracy and predictability with which the data fits the model (Linacre, 2002). In Winsteps and

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Rasch literature, weighted mean-square is also referred to as infit MNSQ and unweighted mean-square is referred to as outfit MNSQ. The infit MNSQ is sensitive to unexpected responses at or near the item's calibrated level; whereas, outfit MNSQ is sensitive to unexpected responses away from the item's calibrated level. Typically, values less than 0.6 and greater than 1.4 for infit MNSQ indicate misfit, and values greater than 1.4 for outfit MNSQ indicate misfit (Wright & Linacre, 1994). Three items were flagged as having misfit as indicated by weighted MNSQ, and 34 items were flagged as having misfit as indicated by unweighted MNSQ. Items on 17 of the 21 CRT tests, with between one and four items flagged per test, had misfit as indicated by unweighted MNSQ.

The items that were flagged for unweighted and/or weighted MNSQ include:

1. MATH Grade 03 Item 2 unweighted mean-square 1.64
2. MATH Grade 03 Item 13 unweighted mean-square 1.57
3. MATH Grade 03 Item 27 unweighted mean-square 1.89, weighted mean-square 1.54
4. MATH Grade 03 Item 38 unweighted mean-square 1.44
5. MATH Grade 04 Item 62 unweighted mean-square 1.48
6. MATH Grade 05 Item 41 unweighted mean-square 1.43
7. MATH Grade 05 Item 50 unweighted mean-square 1.57
8. MATH Grade 06 Item 61 unweighted mean-square 1.49
9. MATH Grade 07 Item 41 unweighted mean-square 1.56
10. MATH Grade 07 Item 42 unweighted mean-square 1.41
11. MATH Grade 07 Item 46 unweighted mean-square 1.83, weighted mean-square 1.52
12. MATH Grade 08 Item 44 unweighted mean-square 1.43
13. MATH Grade 08 Item 64 unweighted mean-square 1.43
14. MATH Grade HS Item 22 unweighted mean-square 1.46
15. MATH Grade HS Item 23 unweighted mean-square 1.46
16. MATH Grade HS Item 69 unweighted mean-square 1.45
17. MATH Grade HS Item 83 unweighted mean-square 1.53
18. READ Grade 03 Item 14 unweighted mean-square 1.73
19. READ Grade 03 Item 20 unweighted mean-square 1.60
20. READ Grade 04 Item 20 unweighted mean-square 1.44
21. READ Grade 04 Item 29 unweighted mean-square 1.59
22. READ Grade 04 Item 45 unweighted mean-square 1.46
23. READ Grade 06 Item 34 unweighted mean-square 1.51
24. READ Grade 06 Item 47 unweighted mean-square 1.66
25. READ Grade 07 Item 2 unweighted mean-square 1.43
26. READ Grade HS Item 14 unweighted mean-square 1.66, weighted mean-square 1.44
27. READ Grade HS Item 29 unweighted mean-square 1.48
28. READ Grade HS Item 48 unweighted mean-square 1.61
29. READ Grade HS Item 52 unweighted mean-square 1.45
30. WRIT Grade 06 Item 21 unweighted mean-square 1.46
31. WRIT Grade 07 Item 2 unweighted mean-square 1.67
32. SCIE Grade 04 Item 10 unweighted mean-square 1.52
33. SCIE Grade 08 Item 23 unweighted mean-square 1.47
34. SCIE Grade HS Item 22 unweighted mean-square 1.54

None of the misfits were so extreme as to warrant corrective action during operational analysis.

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Table 7.3.1.1
Spring 2012 AIMS IRT Item Statistics
Mathematics Grade 3

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-1.30	0.01	0.97	0.94	34	-0.34	0.01	0.96	0.93
2	-0.95	0.01	1.32	1.64	35	-1.38	0.01	1.07	1.17
3	-0.93	0.01	0.91	0.86	36	-1.74	0.01	0.87	0.73
4	-0.34	0.01	1.00	1.00	37	-0.49	0.01	0.99	0.93
5	-0.58	0.01	0.80	0.70	38	1.49	0.01	1.12	1.44
6	-0.25	0.01	0.96	0.92	39	-1.16	0.01	0.91	0.84
7	0.84	0.01	0.93	0.93	40	-0.49	0.01	0.94	0.89
8	-0.94	0.01	1.06	1.12	41	-1.95	0.01	0.89	0.70
9	0.61	0.01	1.08	1.14	42	-0.03	0.01	0.98	0.96
10	-1.22	0.01	0.94	0.90	43	-0.46	0.01	0.96	0.94
11	-0.55	0.01	1.04	1.01	44	0.33	0.01	0.99	1.00
12	-1.40	0.01	0.86	0.68	45	-1.52	0.01	0.88	0.80
13	-2.13	0.01	1.08	1.57	46	-2.23	0.01	1.03	1.12
14	0.59	0.01	1.11	1.15	47	-0.69	0.01	0.90	0.84
15	-0.19	0.01	0.94	0.92	48	0.69	0.01	1.15	1.25
16	0.70	0.01	1.03	1.08	49	-2.69	0.01	0.98	1.22
17	0.28	0.01	0.98	0.97	50	0.39	0.01	1.25	1.36
18	-1.21	0.01	1.07	1.12	51	0.99	0.01	1.12	1.25
19	-1.48	0.01	0.88	0.71	52	-1.36	0.01	0.89	0.76
20	-0.96	0.01	0.99	1.04	53	-0.81	0.01	0.92	0.86
21	-0.73	0.01	0.99	1.00	54	-0.88	0.01	1.03	1.04
22	0.61	0.01	1.08	1.17	55	-0.87	0.01	0.95	0.86
23	-0.28	0.01	1.00	0.94	56	-2.54	0.01	1.01	1.24
24	0.45	0.01	1.10	1.16	57	-0.28	0.01	0.98	0.94
25	-1.26	0.01	0.92	0.80	58	-0.70	0.01	0.95	0.94
26	-0.31	0.01	1.02	1.02	59	-1.45	0.01	0.98	1.02
27	1.02	0.01	1.54	1.89	60	-1.48	0.01	1.00	1.00
28	0.00	0.01	0.86	0.81	61	0.43	0.01	1.06	1.09
29	0.71	0.01	1.11	1.16	62	-1.08	0.01	0.93	0.83
30	-0.57	0.01	0.91	0.86	63	-1.82	0.01	0.88	0.70
31	-0.60	0.01	0.87	0.77	64	-1.55	0.01	0.73	0.55
32	-1.46	0.01	0.88	0.82	65	-0.04	0.01	0.99	0.96
33	-2.17	0.01	0.93	0.80	66	0.30	0.01	0.94	0.94

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Table 7.3.1.2
Spring 2012 AIMS IRT Item Statistics
Mathematics Grade 4

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-1.22	0.01	1.01	0.98	35	-0.78	0.01	0.95	0.89
2	-0.50	0.01	0.94	0.91	36	0.64	0.01	0.99	0.98
3	-0.28	0.01	0.84	0.73	37	-0.59	0.01	0.94	0.91
4	0.84	0.01	1.16	1.25	38	0.01	0.01	1.02	1.09
5	1.33	0.01	0.94	0.98	39	-1.16	0.01	0.90	0.76
6	-2.15	0.01	0.91	0.84	40	0.05	0.01	0.94	0.90
7	-2.07	0.01	0.80	0.58	41	1.17	0.01	1.21	1.33
8	-0.47	0.01	0.94	0.91	42	-0.86	0.01	0.91	0.79
9	1.44	0.01	1.06	1.21	43	-0.09	0.01	0.88	0.82
10	0.69	0.01	1.07	1.10	44	0.77	0.01	1.02	1.03
11	0.09	0.01	0.96	0.95	45	-0.30	0.01	0.82	0.71
12	-0.71	0.01	0.95	0.97	46	0.55	0.01	1.23	1.29
13	0.77	0.01	1.11	1.15	47	-0.45	0.01	1.02	1.01
14	1.49	0.01	0.95	1.03	48	-1.26	0.01	1.10	1.09
15	-0.64	0.01	0.94	0.91	49	-0.65	0.01	1.04	1.15
16	0.57	0.01	1.23	1.32	50	-0.98	0.01	0.82	0.64
17	0.08	0.01	1.08	1.11	51	0.80	0.01	1.16	1.22
18	-0.85	0.01	0.88	0.73	52	-1.64	0.01	0.96	1.02
19	-1.33	0.01	1.06	1.09	53	0.20	0.01	0.94	0.90
20	-0.34	0.01	0.89	0.79	54	0.10	0.01	0.97	0.93
21	-0.71	0.01	1.09	1.22	55	0.29	0.01	1.07	1.12
22	0.21	0.01	0.97	0.92	56	1.32	0.01	1.10	1.22
23	-0.51	0.01	0.92	0.84	57	1.73	0.01	1.05	1.23
24	-0.76	0.01	1.07	1.18	58	-0.11	0.01	1.06	1.11
25	0.85	0.01	1.00	1.02	59	-1.04	0.01	0.98	1.02
26	-0.67	0.01	0.91	0.91	60	-0.52	0.01	0.92	0.87
27	-0.95	0.01	0.85	0.76	61	-1.17	0.01	0.98	1.16
28	-0.45	0.01	0.99	0.95	62	1.92	0.01	1.12	1.48
29	0.05	0.01	0.93	0.96	63	-0.81	0.01	0.92	0.89
30	-1.58	0.01	0.88	0.75	64	0.46	0.01	1.15	1.21
31	1.08	0.01	1.11	1.18	65	-1.05	0.01	0.89	0.79
32	-0.39	0.01	1.07	1.10	66	-0.40	0.01	1.02	1.04
33	1.03	0.01	1.03	1.07	67	-0.83	0.01	0.92	0.83
34	1.00	0.01	0.95	0.99	68	0.33	0.01	1.01	1.00

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Table 7.3.1.3
Spring 2012 AIMS IRT Item Statistics
Mathematics Grade 5

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.21	0.01	1.14	1.32	35	-0.22	0.01	0.91	0.81
2	0.16	0.01	0.94	0.90	36	1.01	0.01	1.16	1.22
3	-0.16	0.01	0.90	0.84	37	0.01	0.01	1.10	1.24
4	0.03	0.01	1.02	1.05	38	-0.09	0.01	0.93	0.90
5	2.42	0.01	1.01	1.20	39	0.15	0.01	1.04	1.22
6	-0.22	0.01	0.85	0.73	40	1.20	0.01	1.22	1.30
7	0.34	0.01	0.98	0.93	41	1.62	0.01	1.26	1.43
8	-0.96	0.01	0.85	0.68	42	1.14	0.01	1.08	1.11
9	1.31	0.01	0.97	0.98	43	1.41	0.01	1.06	1.12
10	0.37	0.01	0.99	0.98	44	1.91	0.01	1.11	1.29
11	0.05	0.01	1.01	1.04	45	-0.39	0.01	0.90	0.79
12	-0.06	0.01	0.98	0.95	46	1.12	0.01	1.13	1.19
13	-0.42	0.01	0.93	0.89	47	0.68	0.01	0.91	0.87
14	-0.94	0.01	0.97	0.95	48	-0.53	0.01	0.92	0.81
15	0.65	0.01	0.86	0.80	49	0.07	0.01	0.92	0.86
16	-0.80	0.01	1.03	1.03	50	2.09	0.01	1.22	1.57
17	-0.10	0.01	0.95	0.99	51	0.64	0.01	1.04	1.05
18	0.29	0.01	1.00	1.01	52	0.96	0.01	1.00	1.01
19	0.36	0.01	0.89	0.82	53	1.69	0.01	1.22	1.38
20	-1.21	0.01	0.92	0.82	54	0.66	0.01	1.04	1.04
21	0.46	0.01	0.92	0.86	55	0.37	0.01	0.99	0.99
22	0.67	0.01	1.02	1.04	56	-0.02	0.01	0.92	0.87
23	0.35	0.01	1.00	0.98	57	-0.22	0.01	1.02	1.11
24	-2.00	0.01	0.99	1.13	58	0.76	0.01	1.22	1.29
25	0.46	0.01	0.90	0.84	59	0.07	0.01	0.99	0.97
26	-1.34	0.01	0.93	0.86	60	0.11	0.01	0.92	0.84
27	1.50	0.01	1.12	1.23	61	0.93	0.01	0.95	0.93
28	0.11	0.01	1.00	0.92	62	0.04	0.01	1.05	1.05
29	-0.98	0.01	0.79	0.58	63	1.55	0.01	0.94	1.00
30	-0.56	0.01	0.87	0.75	64	0.24	0.01	0.93	0.87
31	-0.77	0.01	0.98	1.15	65	0.78	0.01	0.93	0.90
32	-2.11	0.01	0.92	0.65	66	-0.02	0.01	1.04	0.98
33	0.42	0.01	0.96	0.97	67	-1.48	0.01	1.01	1.13
34	-0.40	0.01	0.91	0.81					

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Table 7.3.1.4
Spring 2012 AIMS IRT Item Statistics
Mathematics Grade 6

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	0.82	0.01	1.00	1.02	35	0.27	0.01	0.85	0.73
2	1.61	0.01	1.13	1.17	36	0.32	0.01	1.06	1.06
3	1.77	0.01	1.05	1.09	37	1.08	0.01	0.99	0.94
4	0.83	0.01	1.08	1.10	38	1.33	0.01	1.09	1.10
5	0.15	0.01	1.06	1.17	39	-0.18	0.01	0.96	0.94
6	0.42	0.01	0.87	0.79	40	1.74	0.01	1.24	1.34
7	-0.05	0.01	0.89	0.78	41	0.29	0.01	0.97	0.92
8	-0.23	0.01	0.93	0.88	42	0.59	0.01	1.01	0.95
9	1.35	0.01	1.02	1.01	43	0.11	0.01	0.94	0.89
10	1.73	0.01	1.13	1.19	44	-0.04	0.01	0.90	0.78
11	1.32	0.01	1.03	1.03	45	0.83	0.01	0.97	0.94
12	0.71	0.01	1.04	1.07	46	1.95	0.01	1.22	1.40
13	2.06	0.01	0.86	0.88	47	0.64	0.01	1.06	1.08
14	0.41	0.01	1.12	1.27	48	-0.79	0.01	0.98	1.09
15	1.24	0.01	1.04	1.06	49	0.11	0.01	0.82	0.67
16	0.89	0.01	1.10	1.11	50	0.13	0.01	1.03	1.08
17	-0.55	0.01	0.94	0.86	51	1.39	0.01	0.91	0.90
18	1.21	0.01	1.02	1.01	52	0.65	0.01	0.88	0.81
19	1.19	0.01	0.98	0.96	53	0.17	0.01	0.97	0.92
20	0.99	0.01	1.09	1.16	54	0.00	0.01	0.79	0.63
21	0.35	0.01	1.00	1.07	55	1.33	0.01	1.14	1.16
22	0.57	0.01	0.99	0.94	56	1.00	0.01	0.94	0.93
23	-0.60	0.01	0.90	0.80	57	2.03	0.01	0.98	1.02
24	0.56	0.01	0.92	0.88	58	0.34	0.01	0.89	0.81
25	-0.17	0.01	0.98	0.97	59	0.04	0.01	0.92	0.86
26	0.37	0.01	0.84	0.74	60	1.67	0.01	1.11	1.17
27	-0.79	0.01	0.94	0.90	61	2.10	0.01	1.30	1.49
28	0.13	0.01	1.11	1.25	62	-0.34	0.01	1.03	1.06
29	0.42	0.01	0.87	0.80	63	0.60	0.01	0.93	0.89
30	1.58	0.01	1.20	1.27	64	0.52	0.01	0.94	0.93
31	1.04	0.01	1.03	1.01	65	0.35	0.01	0.78	0.65
32	-0.13	0.01	1.04	1.13	66	0.60	0.01	0.90	0.83
33	1.39	0.01	1.19	1.23	67	1.87	0.01	1.00	1.07
34	1.83	0.01	1.15	1.24	68	0.83	0.01	0.86	0.78

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Table 7.3.1.5
Spring 2012 AIMS IRT Item Statistics
Mathematics Grade 7

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	1.49	0.01	1.08	1.09	35	0.42	0.01	0.93	0.87
2	-0.03	0.01	1.06	1.11	36	1.38	0.01	0.94	0.94
3	1.60	0.01	1.08	1.12	37	2.09	0.01	1.03	1.09
4	1.47	0.01	1.15	1.20	38	1.29	0.01	1.01	1.00
5	1.95	0.01	1.24	1.34	39	0.97	0.01	0.99	0.99
6	1.19	0.01	0.93	0.87	40	0.15	0.01	0.93	0.84
7	0.09	0.01	0.99	0.96	41	1.11	0.01	1.30	1.56
8	0.24	0.01	0.91	0.79	42	2.37	0.01	1.22	1.41
9	-0.84	0.01	0.94	0.90	43	2.25	0.01	1.18	1.31
10	-0.03	0.01	1.05	1.28	44	2.67	0.01	1.02	1.22
11	0.20	0.01	0.95	1.01	45	0.85	0.01	0.91	0.85
12	1.19	0.01	0.92	0.88	46	2.47	0.01	1.52	1.83
13	0.70	0.01	0.97	0.97	47	1.82	0.01	1.16	1.23
14	1.32	0.01	1.02	0.99	48	-0.20	0.01	1.05	1.25
15	0.67	0.01	0.96	0.93	49	0.86	0.01	0.95	0.87
16	-0.23	0.01	0.87	0.75	50	0.72	0.01	0.99	0.98
17	2.34	0.01	1.08	1.17	51	1.73	0.01	1.11	1.13
18	0.45	0.01	0.90	0.81	52	0.45	0.01	0.89	0.77
19	1.61	0.01	0.89	0.85	53	-0.61	0.01	0.85	0.57
20	-0.74	0.01	1.10	1.18	54	0.23	0.01	0.93	0.85
21	0.57	0.01	0.93	0.86	55	-0.40	0.01	0.81	0.54
22	1.48	0.01	0.88	0.85	56	-0.01	0.01	1.11	1.26
23	-0.34	0.01	0.94	0.98	57	0.89	0.01	0.91	0.84
24	-0.72	0.01	0.88	0.75	58	1.46	0.01	1.05	1.05
25	0.85	0.01	0.89	0.85	59	2.31	0.01	1.14	1.28
26	0.82	0.01	0.90	0.79	60	0.60	0.01	0.99	1.07
27	0.94	0.01	1.06	1.07	61	1.36	0.01	0.88	0.81
28	0.05	0.01	0.94	0.96	62	-1.06	0.01	0.97	0.93
29	1.58	0.01	1.09	1.11	63	1.38	0.01	0.84	0.78
30	0.90	0.01	0.88	0.79	64	0.83	0.01	0.99	0.94
31	1.17	0.01	1.06	1.08	65	2.74	0.01	0.92	1.06
32	-0.27	0.01	0.95	0.97	66	1.24	0.01	1.05	1.07
33	-0.30	0.01	0.82	0.58	67	1.17	0.01	1.06	1.04
34	0.62	0.01	0.91	0.78	68	1.11	0.01	1.01	0.98

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Table 7.3.1.6
Spring 2012 AIMS IRT Item Statistics
Mathematics Grade 8

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.81	0.01	0.88	0.63	35	-0.14	0.01	0.87	0.79
2	1.02	0.01	0.97	0.89	36	1.60	0.01	1.05	1.02
3	0.51	0.01	0.94	0.92	37	2.52	0.01	1.17	1.29
4	2.08	0.01	0.95	0.95	38	0.95	0.01	0.86	0.79
5	0.60	0.01	0.92	0.83	39	1.61	0.01	1.01	1.03
6	2.25	0.01	1.03	1.05	40	0.53	0.01	0.90	0.82
7	0.97	0.01	0.94	0.86	41	3.06	0.01	1.06	1.23
8	1.52	0.01	0.93	0.92	42	0.61	0.01	0.99	0.99
9	1.83	0.01	0.98	0.97	43	2.18	0.01	1.05	1.08
10	1.50	0.01	1.11	1.18	44	0.62	0.01	1.10	1.43
11	0.67	0.01	0.85	0.70	45	0.73	0.01	0.95	0.89
12	0.61	0.01	0.98	0.93	46	1.12	0.01	0.90	0.83
13	0.89	0.01	1.05	1.09	47	1.51	0.01	1.09	1.06
14	1.59	0.01	0.97	0.98	48	-0.70	0.01	0.89	0.71
15	0.82	0.01	0.93	0.92	49	0.89	0.01	1.00	1.00
16	0.87	0.01	0.95	0.96	50	2.58	0.01	1.24	1.39
17	1.59	0.01	1.11	1.14	51	1.35	0.01	0.94	0.90
18	2.92	0.01	1.15	1.33	52	1.08	0.01	1.02	1.00
19	1.91	0.01	0.90	0.87	53	1.30	0.01	1.00	0.97
20	1.57	0.01	1.00	0.96	54	1.18	0.01	0.90	0.89
21	0.68	0.01	0.89	0.81	55	2.77	0.01	1.04	1.16
22	-0.13	0.01	0.89	0.74	56	1.00	0.01	0.89	0.85
23	1.25	0.01	0.98	0.96	57	0.33	0.01	0.97	0.98
24	1.07	0.01	1.08	1.10	58	2.59	0.01	1.02	1.09
25	0.50	0.01	0.96	0.88	59	1.85	0.01	1.00	0.98
26	1.01	0.01	1.06	1.21	60	1.50	0.01	1.01	1.03
27	0.99	0.01	1.08	1.12	61	1.28	0.01	1.11	1.13
28	0.01	0.01	0.99	1.20	62	0.45	0.01	0.85	0.74
29	1.23	0.01	0.95	0.97	63	1.97	0.01	1.14	1.21
30	1.07	0.01	0.83	0.72	64	0.49	0.01	1.17	1.43
31	2.39	0.01	1.06	1.12	65	0.68	0.01	0.96	0.93
32	2.56	0.01	1.11	1.21	66	2.37	0.01	1.16	1.26
33	-0.25	0.01	0.86	0.71	67	1.39	0.01	1.01	1.01
34	0.9	0.01	1.06	1.08	68	2.54	0.01	1.05	1.13

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Table 7.3.1.7
Spring 2012 AIMS IRT Item Statistics
Mathematics High School

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.06	0.01	0.89	0.85	44	1.00	0.01	1.00	1.02
2	0.23	0.01	0.89	0.84	45	-0.51	0.01	0.95	0.95
3	0.48	0.01	1.07	1.05	46	1.09	0.01	1.03	1.06
4	0.05	0.01	1.04	1.06	47	-1.22	0.01	0.90	0.84
5	-0.33	0.01	1.01	0.97	48	0.45	0.01	1.08	1.20
6	0.30	0.01	1.14	1.38	49	-1.37	0.01	0.94	0.85
7	-0.57	0.01	1.00	1.01	50	0.27	0.01	1.07	1.07
8	0.43	0.01	1.13	1.23	51	0.94	0.01	0.91	0.91
9	0.64	0.01	0.99	0.97	52	1.61	0.01	1.14	1.28
10	-0.80	0.01	0.88	0.79	53	1.18	0.01	1.00	1.02
11	-1.53	0.01	0.86	0.62	54	-1.42	0.01	0.95	0.94
12	-0.52	0.01	0.84	0.71	55	0.88	0.01	0.82	0.77
13	-0.93	0.01	0.99	0.97	56	0.56	0.01	0.99	0.99
14	-0.86	0.01	1.00	1.06	57	-1.00	0.01	0.90	0.84
15	-0.35	0.01	0.85	0.76	58	1.11	0.01	1.04	1.08
16	-0.29	0.01	0.95	0.89	59	0.91	0.01	1.18	1.26
17	1.69	0.01	1.11	1.23	60	-0.70	0.01	0.78	0.66
18	1.86	0.01	1.13	1.35	61	-0.22	0.01	0.94	0.92
19	-0.57	0.01	0.95	0.92	62	-0.49	0.01	0.87	0.74
20	-0.98	0.01	1.05	1.24	63	0.54	0.01	1.07	1.10
21	-0.65	0.01	0.91	0.82	64	0.60	0.01	1.07	1.15
22	2.27	0.01	1.06	1.46	65	0.26	0.01	1.01	1.00
23	1.43	0.01	1.27	1.46	66	0.91	0.01	0.96	0.96
24	1.32	0.01	1.11	1.20	67	0.02	0.01	1.04	1.03
25	-1.14	0.01	0.86	0.69	68	0.32	0.01	1.07	1.08
26	-0.43	0.01	1.00	1.03	69	1.19	0.01	1.31	1.45
27	0.76	0.01	1.03	1.04	70	0.80	0.01	1.06	1.08
28	1.23	0.01	1.04	1.08	71	0.07	0.01	0.97	0.94
29	0.47	0.01	0.98	0.96	72	-0.26	0.01	0.96	1.09
30	0.31	0.01	0.93	0.88	73	0.96	0.01	1.01	1.01
31	0.76	0.01	1.07	1.10	74	-0.22	0.01	0.92	0.88
32	-0.11	0.01	0.90	0.80	75	0.05	0.01	0.97	0.93
33	-0.45	0.01	0.84	0.72	76	1.42	0.01	1.13	1.23
34	0.03	0.01	0.99	0.97	77	-0.20	0.01	0.88	0.80
35	0.68	0.01	1.01	1.02	78	-0.42	0.01	0.85	0.71
36	-0.36	0.01	0.85	0.75	79	1.04	0.01	1.04	1.08
37	0.58	0.01	1.05	1.07	80	-0.63	0.01	0.85	0.71
38	0.10	0.01	0.89	0.87	81	-1.02	0.01	0.95	0.90
39	1.34	0.01	1.08	1.16	82	0.19	0.01	0.94	0.90
40	0.45	0.01	1.04	1.10	83	1.74	0.01	1.27	1.53
41	0.35	0.01	1.13	1.27	84	0.88	0.01	1.08	1.10
42	-0.21	0.01	0.94	0.95	85	0.05	0.01	0.90	0.82
43	3.16	0.01	0.97	1.33					

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Table 7.3.1.8
Spring 2012 AIMS IRT Item Statistics
Reading Grade 3

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.29	0.01	0.92	0.84	28	0.57	0.01	1.09	1.10
2	-1.23	0.01	0.88	0.67	29	1.17	0.01	0.98	0.98
3	0.07	0.01	0.90	0.80	30	1.44	0.01	0.99	1.02
4	-1.44	0.01	0.92	0.89	31	0.59	0.01	0.88	0.84
5	-0.05	0.01	0.95	0.90	32	-1.83	0.01	0.73	0.41
6	1.54	0.01	1.07	1.14	33	-0.54	0.01	0.82	0.66
7	-1.34	0.01	0.83	0.54	34	-1.22	0.01	0.90	0.78
8	-0.56	0.01	1.04	1.00	35	1.24	0.01	1.01	1.03
9	0.25	0.01	1.12	1.18	36	0.04	0.01	1.08	1.15
10	-0.68	0.01	0.80	0.62	37	-0.18	0.01	0.96	0.92
11	0.92	0.01	0.96	0.94	38	0.19	0.01	0.99	0.94
12	0.98	0.01	1.10	1.13	39	1.97	0.01	1.15	1.35
13	-0.16	0.01	1.03	1.09	40	0.44	0.01	1.04	1.03
14	0.57	0.01	1.36	1.73	41	-0.15	0.01	1.03	1.01
15	0.15	0.01	1.04	1.02	42	1.50	0.01	0.96	0.99
16	0.87	0.01	0.96	0.94	43	1.75	0.01	1.13	1.22
17	-0.60	0.01	0.95	0.88	44	1.48	0.01	1.11	1.21
18	-0.67	0.01	0.89	0.77	45	-0.49	0.01	1.00	1.03
19	-0.12	0.01	1.02	1.05	46	0.80	0.01	1.05	1.09
20	1.53	0.01	1.40	1.60	47	0.47	0.01	0.90	0.83
21	0.07	0.01	0.99	0.99	48	0.58	0.01	1.06	1.09
22	0.63	0.01	0.87	0.81	49	1.62	0.01	1.15	1.25
23	-0.16	0.01	1.00	1.03	50	1.27	0.01	1.03	1.05
24	-0.74	0.01	0.88	0.79	51	0.85	0.01	0.99	0.97
25	-0.44	0.01	0.84	0.71	52	0.17	0.01	0.83	0.70
26	0.41	0.01	0.94	0.87	53	0.79	0.01	0.92	0.89
27	0.92	0.01	1.07	1.07	54	0.55	0.01	0.89	0.83

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Table 7.3.1.9
Spring 2012 AIMS IRT Item Statistics
Reading Grade 4

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.80	0.01	1.03	1.17	28	0.28	0.01	0.95	0.95
2	0.88	0.01	1.08	1.07	29	2.75	0.01	1.10	1.59
3	0.39	0.01	0.99	1.04	30	0.99	0.01	0.91	0.86
4	0.09	0.01	1.06	1.12	31	1.33	0.01	1.11	1.15
5	1.50	0.01	0.99	1.01	32	0.01	0.01	0.93	0.91
6	1.44	0.01	1.15	1.23	33	0.95	0.01	0.89	0.83
7	-0.70	0.01	0.94	0.80	34	1.92	0.01	1.21	1.40
8	0.31	0.01	0.92	0.83	35	0.67	0.01	0.89	0.83
9	1.06	0.01	1.19	1.25	36	-0.73	0.01	0.93	0.87
10	0.88	0.01	1.00	0.98	37	0.63	0.01	0.86	0.77
11	0.40	0.01	0.94	0.89	38	0.78	0.01	0.94	0.89
12	0.83	0.01	1.08	1.21	39	-0.02	0.01	0.97	0.95
13	1.18	0.01	0.95	0.94	40	0.48	0.01	1.01	0.96
14	0.13	0.01	0.88	0.73	41	0.64	0.01	1.03	1.01
15	1.32	0.01	1.04	1.05	42	0.44	0.01	1.09	1.09
16	0.37	0.01	0.99	1.00	43	0.34	0.01	0.99	0.98
17	0.54	0.01	0.94	0.87	44	-1.20	0.01	0.91	0.72
18	0.95	0.01	1.20	1.31	45	-0.76	0.01	1.06	1.46
19	-0.01	0.01	0.96	0.92	46	-1.16	0.01	0.82	0.54
20	1.51	0.01	1.31	1.44	47	-1.06	0.01	0.78	0.57
21	0.26	0.01	1.09	1.11	48	-0.26	0.01	0.88	0.75
22	1.55	0.01	1.24	1.36	49	-1.58	0.01	0.90	0.55
23	0.46	0.01	0.99	0.94	50	0.31	0.01	0.95	0.88
24	1.00	0.01	1.10	1.17	51	1.74	0.01	0.97	1.02
25	-0.57	0.01	0.85	0.66	52	0.87	0.01	0.90	0.86
26	-0.21	0.01	0.83	0.69	53	0.85	0.01	1.05	1.13
27	0.55	0.01	0.95	0.89	54	0.60	0.01	1.01	0.99

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Table 7.3.1.10
Spring 2012 AIMS IRT Item Statistics
Reading Grade 5

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-1.04	0.01	0.91	0.78	28	-0.16	0.01	0.87	0.76
2	1.40	0.01	1.10	1.16	29	0.78	0.01	1.07	1.08
3	-0.20	0.01	0.96	0.90	30	0.72	0.01	1.25	1.40
4	-0.84	0.01	0.84	0.63	31	0.08	0.01	0.99	0.97
5	1.41	0.01	1.09	1.14	32	-0.51	0.01	0.92	0.89
6	-0.17	0.01	1.10	1.14	33	1.21	0.01	1.22	1.29
7	0.50	0.01	1.11	1.15	34	0.87	0.01	1.10	1.12
8	0.53	0.01	0.97	0.92	35	1.39	0.01	1.13	1.19
9	0.26	0.01	0.86	0.76	36	-1.18	0.01	0.91	0.80
10	0.40	0.01	1.03	1.03	37	-0.59	0.01	0.90	0.76
11	-0.50	0.01	1.07	1.12	38	0.14	0.01	0.90	0.84
12	0.53	0.01	1.13	1.18	39	0.78	0.01	1.09	1.10
13	0.89	0.01	0.95	0.92	40	-0.40	0.01	0.85	0.74
14	0.56	0.01	1.14	1.23	41	1.74	0.01	1.19	1.32
15	0.05	0.01	0.86	0.75	42	-0.69	0.01	0.92	0.82
16	1.01	0.01	0.98	0.98	43	-0.24	0.01	0.95	0.92
17	-1.13	0.01	0.81	0.56	44	-2.11	0.02	0.88	0.53
18	0.74	0.01	1.02	1.01	45	-0.02	0.01	0.92	0.86
19	-0.40	0.01	0.90	0.79	46	1.25	0.01	0.93	0.93
20	1.54	0.01	1.15	1.23	47	0.84	0.01	0.92	0.89
21	0.00	0.01	0.93	0.89	48	1.82	0.01	1.17	1.30
22	0.61	0.01	1.01	1.00	49	0.18	0.01	0.84	0.75
23	1.92	0.01	1.07	1.17	50	0.10	0.01	0.86	0.75
24	0.45	0.01	1.02	1.04	51	0.32	0.01	0.86	0.76
25	-0.06	0.01	0.92	0.82	52	0.86	0.01	1.00	0.98
26	0.10	0.01	0.87	0.78	53	2.09	0.01	1.03	1.21
27	1.08	0.01	1.03	1.03	54	1.87	0.01	1.17	1.31

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Table 7.3.1.11
Spring 2012 AIMS IRT Item Statistics
Reading Grade 6

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.87	0.01	0.92	0.77	28	0.87	0.01	1.03	1.04
2	1.15	0.01	1.11	1.14	29	1.14	0.01	1.09	1.12
3	-2.46	0.02	0.93	0.69	30	0.32	0.01	0.93	0.83
4	1.12	0.01	1.12	1.15	31	1.34	0.01	1.04	1.07
5	-0.52	0.01	0.72	0.56	32	0.01	0.01	0.84	0.69
6	-1.10	0.01	0.79	0.47	33	0.66	0.01	0.93	0.87
7	-1.16	0.01	0.76	0.50	34	2.50	0.01	1.20	1.51
8	1.77	0.01	1.19	1.31	35	0.89	0.01	0.87	0.81
9	0.63	0.01	1.05	1.04	36	1.15	0.01	0.94	0.93
10	0.52	0.01	0.88	0.81	37	1.93	0.01	1.04	1.13
11	0.86	0.01	0.99	0.97	38	0.49	0.01	0.98	0.96
12	-0.74	0.01	0.96	0.77	39	0.35	0.01	0.98	0.96
13	-0.92	0.01	0.84	0.60	40	-0.20	0.01	0.85	0.75
14	0.54	0.01	1.08	1.11	41	0.92	0.01	1.07	1.07
15	-0.26	0.01	0.91	0.77	42	0.29	0.01	1.02	1.02
16	0.39	0.01	0.89	0.80	43	0.85	0.01	1.10	1.11
17	0.07	0.01	0.84	0.73	44	0.48	0.01	1.10	1.16
18	-0.20	0.01	0.92	0.84	45	-0.68	0.01	0.90	0.79
19	0.30	0.01	0.87	0.78	46	1.42	0.01	1.19	1.26
20	0.10	0.01	0.93	0.83	47	2.81	0.01	1.18	1.66
21	1.48	0.01	1.07	1.14	48	0.08	0.01	1.00	1.05
22	0.56	0.01	1.01	1.00	49	0.56	0.01	1.06	1.06
23	1.08	0.01	1.21	1.28	50	0.50	0.01	1.09	1.13
24	0.51	0.01	1.20	1.31	51	1.36	0.01	1.00	1.01
25	-1.19	0.01	0.84	0.53	52	0.94	0.01	1.01	0.99
26	0.91	0.01	0.92	0.89	53	1.79	0.01	1.16	1.27
27	0.09	0.01	0.87	0.74	54	-1.01	0.01	0.88	0.65

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Table 7.3.1.12
Spring 2012 AIMS IRT Item Statistics
Reading Grade 7

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.98	0.01	0.88	0.64	28	0.38	0.01	0.91	0.87
2	0.52	0.01	1.24	1.43	29	0.44	0.01	0.89	0.83
3	-1.09	0.01	0.92	0.89	30	1.05	0.01	0.89	0.84
4	0.25	0.01	0.99	0.96	31	0.56	0.01	1.09	1.12
5	-0.38	0.01	0.97	0.95	32	0.92	0.01	0.93	0.89
6	0.32	0.01	1.09	1.23	33	0.53	0.01	0.93	0.85
7	-0.28	0.01	1.00	0.97	34	1.52	0.01	1.00	1.02
8	1.76	0.01	1.07	1.12	35	1.20	0.01	0.89	0.86
9	-0.55	0.01	0.85	0.67	36	1.07	0.01	1.15	1.23
10	0.38	0.01	0.96	0.91	37	1.70	0.01	1.06	1.12
11	1.27	0.01	0.90	0.88	38	2.81	0.01	1.06	1.25
12	0.71	0.01	0.94	0.91	39	0.86	0.01	1.03	1.01
13	-0.24	0.01	0.99	0.97	40	1.35	0.01	1.16	1.21
14	1.46	0.01	1.09	1.14	41	-0.02	0.01	1.02	1.03
15	0.59	0.01	1.05	1.05	42	-0.17	0.01	1.01	1.09
16	0.48	0.01	0.98	1.02	43	0.13	0.01	1.09	1.17
17	0.94	0.01	1.17	1.25	44	0.49	0.01	0.97	0.92
18	1.37	0.01	1.20	1.26	45	0.08	0.01	1.00	0.94
19	0.88	0.01	0.93	0.89	46	1.40	0.01	0.97	0.96
20	-0.35	0.01	1.01	1.00	47	0.88	0.01	1.08	1.11
21	1.36	0.01	1.14	1.19	48	-0.57	0.01	0.87	0.67
22	-0.17	0.01	0.87	0.78	49	0.67	0.01	0.90	0.83
23	-0.20	0.01	1.09	1.16	50	0.12	0.01	1.06	1.05
24	0.60	0.01	1.02	1.03	51	-0.31	0.01	0.84	0.77
25	1.56	0.01	1.01	1.03	52	0.77	0.01	0.95	0.92
26	-0.44	0.01	0.93	0.88	53	-0.46	0.01	0.85	0.70
27	0.06	0.01	0.89	0.78	54	2.11	0.01	1.05	1.14

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Table 7.3.1.13
Spring 2012 AIMS IRT Item Statistics
Reading Grade 8

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	0.65	0.01	1.11	1.15	28	0.44	0.01	1.13	1.15
2	-0.25	0.01	0.95	0.90	29	0.08	0.01	1.00	0.98
3	-1.00	0.01	1.01	0.98	30	0.35	0.01	1.13	1.19
4	-1.15	0.01	1.02	1.10	31	1.00	0.01	1.18	1.25
5	-1.90	0.01	1.00	1.16	32	-1.51	0.01	0.87	0.69
6	1.05	0.01	1.13	1.21	33	-0.57	0.01	0.87	0.73
7	1.05	0.01	0.90	0.89	34	-0.49	0.01	0.89	0.81
8	-1.35	0.01	0.94	0.83	35	-0.44	0.01	0.96	0.94
9	-0.11	0.01	0.97	0.94	36	-0.13	0.01	0.99	0.99
10	0.13	0.01	1.03	1.01	37	0.77	0.01	0.96	0.96
11	-0.67	0.01	1.04	1.09	38	-1.31	0.01	0.82	0.55
12	0.99	0.01	1.10	1.17	39	-0.69	0.01	0.93	0.82
13	-0.47	0.01	1.02	1.03	40	1.35	0.01	1.05	1.13
14	-1.60	0.01	0.91	0.75	41	1.57	0.01	1.14	1.30
15	0.01	0.01	1.10	1.09	42	-0.47	0.01	0.99	0.95
16	0.26	0.01	0.91	0.85	43	0.22	0.01	1.07	1.12
17	0.17	0.01	1.01	1.00	44	-0.48	0.01	1.00	0.97
18	0.13	0.01	0.98	0.94	45	0.19	0.01	1.04	1.04
19	-0.21	0.01	0.94	0.90	46	-0.56	0.01	0.91	0.79
20	0.09	0.01	1.02	1.02	47	-0.19	0.01	1.01	0.97
21	-0.53	0.01	0.83	0.68	48	-1.25	0.01	0.89	0.75
22	0.05	0.01	1.12	1.25	49	-0.04	0.01	0.93	0.87
23	-1.21	0.01	0.92	1.02	50	1.19	0.01	0.99	1.02
24	1.06	0.01	1.24	1.35	51	-0.64	0.01	0.84	0.69
25	0.44	0.01	1.04	1.04	52	-0.37	0.01	0.97	0.96
26	0.02	0.01	1.02	1.05	53	0.40	0.01	0.97	0.94
27	0.14	0.01	0.91	0.86	54	0.19	0.01	0.99	0.99

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Table 7.3.1.14
Spring 2012 AIMS IRT Item Statistics
Reading High School

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	0.52	0.01	1.16	1.21	28	1.34	0.01	0.97	0.97
2	-0.22	0.01	1.10	1.17	29	2.61	0.01	1.08	1.48
3	-0.83	0.01	0.98	1.14	30	0.97	0.01	0.92	0.90
4	-1.20	0.01	0.95	0.79	31	1.54	0.01	1.05	1.07
5	-0.20	0.01	1.02	1.08	32	0.69	0.01	0.82	0.74
6	-1.97	0.02	0.87	0.55	33	0.07	0.01	1.01	0.97
7	0.50	0.01	1.10	1.16	34	-0.28	0.01	0.98	0.98
8	-0.65	0.01	0.98	1.00	35	0.54	0.01	0.89	0.82
9	1.46	0.01	0.95	0.96	36	-0.08	0.01	1.03	1.07
10	-1.03	0.01	0.90	0.73	37	0.68	0.01	1.15	1.26
11	0.88	0.01	1.07	1.11	38	0.75	0.01	1.05	1.06
12	1.30	0.01	1.06	1.09	39	-0.03	0.01	0.90	0.83
13	0.97	0.01	0.96	0.95	40	-0.79	0.01	0.85	0.65
14	1.89	0.01	1.44	1.66	41	0.88	0.01	0.90	0.85
15	0.09	0.01	1.02	0.96	42	1.56	0.01	0.92	0.95
16	0.01	0.01	0.93	0.87	43	0.19	0.01	0.88	0.78
17	1.99	0.01	1.17	1.31	44	0.38	0.01	0.79	0.68
18	-1.14	0.01	0.86	0.67	45	1.11	0.01	1.05	1.07
19	1.70	0.01	1.13	1.22	46	1.67	0.01	1.03	1.10
20	-1.01	0.01	0.89	0.78	47	0.25	0.01	0.98	0.97
21	1.12	0.01	1.02	1.03	48	2.41	0.01	1.24	1.61
22	0.77	0.01	0.92	0.90	49	0.62	0.01	1.00	0.96
23	0.12	0.01	0.88	0.79	50	1.44	0.01	1.17	1.23
24	-1.29	0.01	0.85	0.57	51	-0.28	0.01	0.88	0.74
25	-1.63	0.01	0.78	0.49	52	2.44	0.01	1.06	1.45
26	0.50	0.01	1.02	1.01	53	0.01	0.01	0.93	0.86
27	0.88	0.01	0.90	0.85	54	0.95	0.01	1.09	1.10

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Table 7.3.1.15
Spring 2012 AIMS IRT Item Statistics
Science Grade 4

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	0.12	0.01	1.01	0.99	28	0.45	0.01	0.95	0.92
2	-0.84	0.01	0.91	0.74	29	0.15	0.01	1.06	1.09
3	-0.74	0.01	1.00	1.01	30	-0.36	0.01	0.98	0.98
4	-0.55	0.01	0.92	0.86	31	-1.70	0.01	0.95	0.86
5	-0.07	0.01	1.02	1.00	32	0.04	0.01	1.06	1.08
6	0.16	0.01	0.98	0.93	33	1.44	0.01	1.01	1.05
7	0.52	0.01	1.03	1.05	34	-0.03	0.01	1.00	0.98
8	0.85	0.01	0.99	0.99	35	-0.05	0.01	1.14	1.33
9	-2.76	0.02	0.74	0.65	36	-1.29	0.01	0.86	0.70
10	-2.23	0.02	1.03	1.52	37	0.46	0.01	1.07	1.11
11	-0.23	0.01	0.97	1.02	38	0.63	0.01	1.10	1.14
12	0.00	0.01	1.06	1.12	39	-1.48	0.01	0.93	0.70
13	-0.34	0.01	1.02	1.00	40	-0.71	0.01	0.99	1.01
14	-0.91	0.01	0.91	0.80	41	-1.89	0.01	0.95	1.04
15	0.40	0.01	0.91	0.87	42	-0.40	0.01	0.98	0.94
16	0.60	0.01	0.86	0.80	43	-0.67	0.01	1.03	1.14
17	0.31	0.01	0.95	0.90	44	-1.06	0.01	1.02	1.12
18	1.32	0.01	1.21	1.33	45	1.08	0.01	1.08	1.12
19	-0.34	0.01	0.94	0.90	46	-0.83	0.01	0.99	0.88
20	0.53	0.01	1.08	1.08	47	1.17	0.01	1.00	1.03
21	1.06	0.01	0.98	1.00	48	-0.18	0.01	1.00	1.03
22	1.37	0.01	1.20	1.30	49	0.44	0.01	0.88	0.82
23	-0.31	0.01	0.97	0.92	50	0.62	0.01	0.99	0.97
24	-1.13	0.01	0.83	0.63	51	0.03	0.01	1.17	1.32
25	0.11	0.01	0.87	0.79	52	0.68	0.01	1.20	1.28
26	0.42	0.01	1.06	1.06	53	0.57	0.01	0.94	0.91
27	0.70	0.01	1.13	1.16	54	-0.26	0.01	0.86	0.73

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Table 7.3.1.16
Spring 2012 AIMS IRT Item Statistics
Science Grade 8

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-1.22	0.01	1.01	1.22	30	1.21	0.01	1.09	1.17
2	-0.45	0.01	0.98	0.92	31	-0.71	0.01	0.99	1.02
3	-0.41	0.01	0.98	0.94	32	-0.28	0.01	0.95	0.90
4	-2.70	0.02	0.91	0.62	33	-0.40	0.01	0.90	0.86
5	-1.45	0.01	1.04	1.04	34	-0.06	0.01	1.00	0.96
6	-1.48	0.01	0.84	0.63	35	0.28	0.01	1.11	1.15
7	0.64	0.01	1.22	1.32	36	-1.50	0.01	0.92	0.91
8	-1.29	0.01	0.87	0.74	37	-0.30	0.01	0.99	1.12
9	0.21	0.01	1.07	1.11	38	0.37	0.01	1.09	1.14
10	0.29	0.01	1.04	1.04	39	-1.23	0.01	0.79	0.58
11	-0.43	0.01	1.17	1.30	40	0.57	0.01	0.92	0.89
12	-0.66	0.01	0.95	1.04	41	0.51	0.01	0.94	0.90
13	0.60	0.01	1.15	1.21	42	0.67	0.01	1.02	1.01
14	-0.78	0.01	0.98	0.96	43	-0.18	0.01	0.90	0.82
15	-0.19	0.01	0.90	0.82	44	-0.97	0.01	0.84	0.63
16	-1.16	0.01	1.13	1.20	45	1.04	0.01	1.17	1.23
17	-0.75	0.01	0.88	0.71	46	0.82	0.01	0.96	0.96
18	-0.16	0.01	0.90	0.82	47	1.22	0.01	0.92	0.93
19	1.00	0.01	1.02	1.04	48	0.37	0.01	0.91	0.87
20	-0.84	0.01	0.90	0.80	49	1.70	0.01	1.12	1.26
21	0.64	0.01	1.08	1.11	50	0.04	0.01	0.90	0.83
22	1.08	0.01	1.13	1.18	51	0.38	0.01	0.96	0.94
23	2.59	0.01	1.13	1.47	52	-0.11	0.01	0.92	0.86
24	0.27	0.01	1.05	1.05	53	0.40	0.01	1.01	1.03
25	0.07	0.01	1.02	1.04	54	1.06	0.01	1.10	1.14
26	-0.49	0.01	0.96	0.90	55	1.11	0.01	1.02	1.04
27	0.27	0.01	0.98	0.94	56	0.63	0.01	0.86	0.82
28	-1.05	0.01	0.93	0.86	57	-0.50	0.01	0.89	0.77
29	-0.55	0.01	1.00	1.07	58	1.46	0.01	1.18	1.30

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Table 7.3.1.17
Spring 2012 AIMS IRT Item Statistics
Science Grade HS

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-2.08	0.01	0.93	0.74	34	0.73	0.01	1.25	1.36
2	-2.25	0.02	1.00	0.96	35	-1.29	0.01	0.76	0.55
3	-0.66	0.01	1.12	1.19	36	-0.63	0.01	0.84	0.74
4	-1.76	0.01	0.90	0.83	37	1.05	0.01	1.02	1.13
5	-1.35	0.01	1.01	1.15	38	0.84	0.01	0.99	1.06
6	-0.62	0.01	1.08	1.22	39	-0.81	0.01	1.03	1.12
7	-1.12	0.01	0.87	0.80	40	-0.44	0.01	1.00	1.03
8	-0.92	0.01	0.88	0.75	41	-0.58	0.01	0.96	0.96
9	0.15	0.01	1.11	1.14	42	-0.15	0.01	0.93	0.91
10	-0.10	0.01	1.09	1.14	43	-1.33	0.01	0.86	0.71
11	-0.30	0.01	0.98	0.90	44	0.00	0.01	0.96	0.92
12	-1.02	0.01	0.79	0.63	45	0.04	0.01	1.06	1.05
13	-0.57	0.01	0.88	0.88	46	-0.90	0.01	0.76	0.60
14	0.61	0.01	1.02	1.06	47	-1.31	0.01	0.86	0.68
15	-0.61	0.01	1.03	1.09	48	-0.82	0.01	0.84	0.76
16	-1.40	0.01	0.75	0.59	49	-0.03	0.01	0.89	0.86
17	-0.34	0.01	1.02	1.10	50	-1.20	0.01	0.79	0.58
18	0.18	0.01	1.08	1.11	51	0.93	0.01	1.06	1.14
19	0.32	0.01	1.15	1.19	52	0.81	0.01	1.11	1.18
20	-0.33	0.01	1.01	1.04	53	-1.20	0.01	0.81	0.67
21	-0.26	0.01	1.09	1.18	54	0.35	0.01	1.05	1.06
22	1.48	0.01	1.21	1.54	55	-0.24	0.01	0.90	0.85
23	0.13	0.01	1.11	1.12	56	-0.92	0.01	0.88	0.76
24	-1.26	0.01	0.85	0.71	57	0.81	0.01	1.13	1.19
25	0.13	0.01	1.12	1.18	58	0.66	0.01	1.19	1.28
26	0.37	0.01	1.07	1.10	59	-0.95	0.01	0.85	0.70
27	0.27	0.01	1.16	1.20	60	-0.66	0.01	0.88	0.80
28	1.16	0.01	1.10	1.27	61	-0.66	0.01	0.91	0.81
29	0.45	0.01	1.02	1.02	62	0.76	0.01	1.11	1.22
30	0.25	0.01	1.12	1.15	63	-1.12	0.01	0.84	0.68
31	-0.90	0.01	0.96	0.92	64	-0.04	0.01	1.03	1.02
32	0.01	0.01	1.07	1.08	65	-0.31	0.01	0.99	0.95
33	-0.59	0.01	0.97	0.88					

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Table 7.3.1.18
Spring 2012 AIMS IRT Item Statistics
Writing Grade 5

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-1.95	0.01	0.88	0.65	15	0.02	0.01	0.94	0.87
2	0.32	0.01	1.11	1.16	16	0.66	0.01	0.97	0.96
3	0.58	0.01	1.01	1.01	17	0.24	0.01	1.13	1.22
4	-0.71	0.01	0.97	0.95	18	-1.01	0.01	0.86	0.71
5	1.42	0.01	1.11	1.24	19	1.32	0.01	1.07	1.15
6	0.73	0.01	1.09	1.15	20	-0.77	0.01	0.96	0.97
7	-0.81	0.01	0.87	0.65	21	-1.43	0.01	0.83	0.64
8	0.68	0.01	1.15	1.19	22	0.62	0.01	1.10	1.19
9	1.45	0.01	1.09	1.22	23	0.61	0.01	0.98	0.97
10	0.34	0.01	1.09	1.11	24	-0.04	0.01	1.07	1.09
11	-0.56	0.01	0.88	0.77	25	-0.62	0.01	0.90	0.85
12	-0.72	0.01	0.93	0.83	26	-0.28	0.01	0.93	0.86
13	0.58	0.01	0.99	1.00	27	0.62	0.01	0.97	0.94
14	-0.20	0.01	0.94	0.88					

Table 7.3.1.19
Spring 2012 AIMS IRT Item Statistics
Writing Grade 6

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.67	0.01	1.01	0.94	15	-0.39	0.01	0.95	0.96
2	-2.36	0.02	0.93	0.80	16	0.56	0.01	1.02	1.03
3	-0.84	0.01	0.99	1.01	17	0.04	0.01	0.93	0.91
4	-0.54	0.01	0.91	0.77	18	0.68	0.01	0.98	0.97
5	0.27	0.01	1.00	0.98	19	-1.07	0.01	0.91	0.77
6	0.88	0.01	0.92	0.90	20	-0.24	0.01	0.95	0.92
7	0.89	0.01	1.16	1.23	21	2.47	0.01	1.09	1.46
8	-0.12	0.01	0.91	0.87	22	1.19	0.01	1.08	1.13
9	-0.89	0.01	0.89	0.77	23	0.37	0.01	0.88	0.82
10	-0.84	0.01	0.98	0.95	24	1.16	0.01	1.12	1.21
11	0.14	0.01	1.07	1.08	25	0.19	0.01	0.95	0.94
12	0.83	0.01	1.12	1.17	26	-0.89	0.01	0.83	0.64
13	0.77	0.01	1.12	1.16	27	-0.17	0.01	1.13	1.24
14	0.14	0.01	1.02	1.02					

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Table 7.3.1.20
Spring 2012AIMS IRT Item Statistics
Writing Grade 7

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	0.55	0.01	1.12	1.17	15	0.65	0.01	1.06	1.07
2	2.15	0.01	1.27	1.67	16	-0.05	0.01	0.98	0.96
3	0.37	0.01	1.01	0.95	17	-1.23	0.01	0.86	0.63
4	-0.09	0.01	0.97	0.97	18	0.77	0.01	1.06	1.07
5	0.98	0.01	1.10	1.15	19	-0.20	0.01	1.07	1.16
6	-0.70	0.01	0.87	0.68	20	0.95	0.01	1.13	1.18
7	-0.31	0.01	0.95	0.87	21	0.36	0.01	0.95	0.91
8	0.29	0.01	0.97	0.95	22	0.96	0.01	0.98	0.99
9	-0.68	0.01	0.97	0.94	23	-0.06	0.01	0.93	0.86
10	-0.86	0.01	1.01	0.99	24	-1.33	0.01	0.87	0.66
11	-0.70	0.01	0.92	0.78	25	1.81	0.01	1.11	1.29
12	-0.06	0.01	0.94	0.87	26	-0.52	0.01	1.01	0.94
13	-0.82	0.01	0.99	1.00	27	-0.54	0.01	0.88	0.72
14	-0.74	0.01	0.93	0.83					

Table 7.3.1.21
Spring 2012 AIMS IRT Item Statistics
Writing Grade HS

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.48	0.01	1.05	1.09	15	0.26	0.01	1.12	1.23
2	-0.16	0.01	1.06	1.08	16	0.91	0.01	1.03	1.04
3	0.62	0.01	1.16	1.23	17	-0.97	0.01	0.95	0.86
4	1.22	0.01	1.18	1.26	18	-0.60	0.01	0.95	0.93
5	-0.98	0.01	0.89	0.77	19	-1.51	0.01	0.99	1.60
6	-0.40	0.01	0.99	0.98	20	-1.07	0.01	0.89	0.76
7	0.77	0.01	0.94	0.92	21	-0.61	0.01	0.94	0.99
8	1.25	0.01	0.95	0.96	22	1.27	0.01	0.95	0.95
9	1.81	0.01	0.93	0.99	23	-0.04	0.01	0.91	0.84
10	0.78	0.01	0.96	0.95	24	0.32	0.01	0.98	0.96
11	1.00	0.01	1.06	1.09	25	0.00	0.01	1.02	1.08
12	-0.75	0.01	0.97	0.95	26	0.13	0.01	0.88	0.80
13	-0.13	0.01	0.99	1.00	27	1.12	0.01	1.09	1.14
14	-0.70	0.01	0.89	0.76					

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Table 7.3.1.22
Spring 2012 AIMS IRT Item Statistics
Writing Prompt

Grade	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Step1	Step2	Step3	Step4	Step5	Step6	Step7	Step8	Step9	Step10
5	0.8071	0.01	0.41	0.40	-3.6814	-1.6418	0.4035	3.2216	5.7334					
6	1.0121	0.01	0.41	0.40	-3.3632	-1.3303	0.5611	3.5350	5.6579					
7	1.5949	0.01	0.42	0.40	-3.1997	-1.2616	1.0280	4.2790	7.1289					
HS A	0.8481	0.00	0.40	0.39	-1.6624	-2.8468	-0.8090	-1.5525	0.4940	0.3026	2.6814	2.8705	4.0846	4.9185
HS T	0.9674	0.02	0.41	0.40	-1.4295	-2.8085	-0.3851	-0.9286	0.7571	0.6412	2.8127	2.9482	3.5433	4.5231

The Steps in the table are the step difficulty estimates from the Partial Credit IRT model for the writing prompt at each grade level. There is one less step parameter than there are score categories. For Grades 5, 6, and 7, there are six score categories (1 through 6) resulting in five-step parameters. For the high school prompts, there are eleven score categories (2 through 12) resulting in ten-step parameters.

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7.4 Scaling Methods

7.4.1 Reading

In 2005, a scale of measurement was determined for each of the AIMS CRT reading tests. The AIMS CRT reading in Grades 3-8 were placed on a vertical scale through the use of external anchor items composed of *TerraNova* NRT items for which item parameters had been obtained during national standardization. The desired AIMS scales for Grades 3-8 reading ranged from 200 to 800. The high school reading test was placed on a separate scale that ranged from 500 to 900 with an approximate mean of 700. The standard deviation was set to 50 for high school reading. The AIMS high school assessment was not placed on the Grades 3-8 vertical scale. A detailed description concerning the development of the scale of measurement for the AIMS Reading tests can be found in section 7.2.1 of the 2005 AIMS Technical Report and is available from the Arizona Department of Education: http://www.azed.gov/wp-content/uploads/PDF/AIMSTechReport2005.pdf and http://www.azed.gov/wp-content/uploads/PDF/AZBKMKFinalTechReport.pdf

7.4.2 Science

A scale of measurement was determined for science using Spring 2008 operational test results and cut scores were determined during standard setting meetings. A detailed description concerning the development of the scale of measurement can be found in Appendix B of the 2008 AIMS Technical Report. (http://www.azed.gov/wp-content/uploads/PDF/AIMSTechReport2008.pdf and http://www.azed.gov/wp-content/uploads/PDF/AIMS2008ScienceREVISEDStandardSettingTechnicalReport.pdf) The AIMS CRT science scales for Grades 4, 8, and high school ranged from 200 to 800. The science scales are not on a vertical scale. Each grade has its own unique scale so that the scale scores for different grades can NOT be compared.

7.4.3 Mathematics

A new scale was created for the mathematics tests in 2010 using the operational test results. The tests were built to the 2008 content standards using a new test blueprint. Performance standards were also set on the new tests in spring 2010. The procedures used to set performance standards are described in a report available from the Arizona Department of Education, available on the ADE website. (http://www.azed.gov/wp-content/uploads/PDF/AZAIMSMathSSReport2010.pdf) The high school test was scaled to have a mean of 500 and a standard deviation of 50. The scale scores range from 300 to 700. A vertical scale was created for the tests in Grades 3 through 8. The tests were scaled across the grades to have a mean of 400 and a standard deviation of 55. The scale scores range from 100 to 640.

7.4.4 Writing

New writing tests were implemented for Grades 5, 6, 7, and high school in spring 2011. The tests consist of multiple-choice items and an extended response essay. Performance standards were also set on the new tests in spring 2011.The test for each grade was scaled such that scores range from 300 to 700 and have a mean of 500 and a standard deviation of 50. A detailed description concerning the development of the scale of measurement can be found in Section 7.5.2 of this Technical Report and in the writing standard setting report http://www.azed.gov/wp-content/uploads/PDF/AZAIMSWritingSSReport2011.pdf. Each grade has its own unique scale so that the scale scores for different grades can NOT be compared.

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7.5 Equating

7.5.1 Reading, Mathematics, and Science

The 2012 AIMS Reading, Mathematics, and Science tests were equated and placed on the operational AIMS scale using a common-item, non-equivalent groups design. A set of anchor items was selected from the 2011 and previous operational assessments before the item selection workshop. The anchor items were selected with two principles in mind. First, the subset of anchor items should represent the content covered by the full AIMS assessment. Second, the subset of anchor items should be representative of the distribution of item difficulties for the full assessment. The only items eligible to be considered for anchor items were AIMS items. No dual purpose or NRT items served as anchors.

Table 7.5.1.1 presents the number of anchor/common items for each grade/subject area. Tables 7.5.1.2 through 7.5.1.5 present a representation of content charts for the 2011 anchor items compared to the 2012 operational form. Tables 7.5.1.6 through 7.5.1.9 present descriptive statistics for the 2011 anchor/common item difficulties and the 2012 operational form.

Table 7.5.1.1
Spring 2012 AIMS Anchor Items

Content	Grade	CRT Total	Anchor
Mathematics	3	66	14
	4	68	17
	5	67	15
	6	68	16
	7	68	15
	8	68	17
	HS	85	23
Reading	3	54	11
	4	54	12
	5	54	12
	6	54	12
	7	54	11
	8	54	12
	HS	54	12
Science	4	54	19
	8	58	19
	HS	65	20
Writing (MC)	5	27	9
	6	27	9
	7	27	9
	HS	27	8

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Table 7.5.1.2
Representation of Content by 2012 Anchor Sets, Mathematics

		Strand																	
		1			2				3				4				5		
		Concept			Concept				Concept				Concept				Concept		Total
		1	2	3	1	2	3	4	1	2	3	4	1	2	3	4	1	2	
MA03 All	N	11	13	4	4	0	2	2	4	3	4		4	2	0	6	0	7	66
	Pct	16.67	19.7	6.06	6.06	0	3.03	3.03	6.06	4.55	6.06		6.06	3.03	0	9.09	0	10.61	100
Anchor	N	3	3	1	1	0	1		1	1	1		0	0	0	1	0	1	14
	Pct	21.43	21.43	7.14	7.14	0	7.14		7.14	7.14	7.14		0	0	0	7.14	0	7.14	100
MA04 All	N	11	12	4	4	0	2	2	5	0	5	2	5	0	4	4	1	7	68
	Pct	16.18	17.65	5.88	5.88	0	2.94	2.94	7.35	0	7.35	2.94	7.35	0	5.88	5.88	1.47	10.29	100
Anchor	N	2	2	1	1	0	1	1	2	0	1	1	1	0	1	2	0	1	17
	Pct	11.76	11.76	5.88	5.88	0	5.88	5.88	11.76	0	5.88	5.88	5.88	0	5.88	11.76	0	5.88	100
MA05 All	N	11	10	4	4	4	2	2	4	0	4	3	5	0	0	5	2	7	67
	Pct	16.42	14.93	5.97	5.97	5.97	2.99	2.99	5.97	0	5.97	4.48	7.46	0	0	7.46	2.99	10.45	100
Anchor	N	2	2	1	1	1	1		1	0	0	2	1	0	0	1	1	1	15
	Pct	13.33	13.33	6.67	6.67	6.67	6.67		6.67	0	0	13.33	6.67	0	0	6.67	6.67	6.67	100
MA06 All	N	9	10	4	4	4	2	2	1	3	6	1	1	3	4	5	1	8	68
	Pct	13.24	14.71	5.88	5.88	5.88	2.94	2.94	1.47	4.41	8.82	1.47	1.47	4.41	5.88	7.35	1.47	11.76	100
Anchor	N	1	1	1	1	1	1	1	0	2	2		1	1	0	2	0	1	16
	Pct	6.25	6.25	6.25	6.25	6.25	6.25	6.25	0	12.5	12.5		6.25	6.25	0	12.5	0	6.25	100
MA07 All	N	5	8	4	4	5	3	1	4	0	7	2	6	3	0	6	1	9	68
	Pct	7.35	11.76	5.88	5.88	7.35	4.41	1.47	5.88	0	10.29	2.94	8.82	4.41	0	8.82	1.47	13.24	100
Anchor	N	1	2	1	2				1	0	1	1	0	1	0	3	1	1	15
	Pct	6.67	13.33	6.67	13.33				6.67	0	6.67	6.67	0	6.67	0	20	6.67	6.67	100
MA08 All	N	4	4	4	4	4	2	2	3	3	8	4	4	4	4	4	1	9	68
	Pct	5.88	5.88	5.88	5.88	5.88	2.94	2.94	4.41	4.41	11.76	5.88	5.88	5.88	5.88	5.88	1.47	13.24	100
Anchor	N	2	1	1	1	1	1		0	1	3		2	1	0	1	1	1	17
	Pct	11.76	5.88	5.88	5.88	5.88	5.88		0	5.88	17.65		11.76	5.88	0	5.88	5.88	5.88	100
MAHS All	N	1	2	2	4	4	3	1	4	6	14	4	11	4	7	6	2	10	85
	Pct	1.18	2.35	2.35	4.71	4.71	3.53	1.18	4.71	7.06	16.47	4.71	12.94	4.71	8.24	7.06	2.35	11.76	100
Anchor	N	1	0	1	2	1	1		1	2	4	1	2	2	2	1	1	1	23
	Pct	4.35	0	4.35	8.7	4.35	4.35		4.35	8.7	17.39	4.35	8.7	8.7	8.7	4.35	4.35	4.35	100

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Table 7.5.1.3
Representation of Content by 2012 Anchor Sets, Reading

		Strand										
		1 Concept					2 Concept		3 Concept			Total
		1	2	3	4	6	1	2	1	2	3	
RD03 All	N	4	0	5	6	9	12		6	6	6	54
	Pct	7.41	0	9.26	11.11	16.67	22.22		11.11	11.11	11.11	100
Anchor	N	1	0	1	1	2	2		2	1	1	11
	Pct	9.09	0	9.09	9.09	18.18	18.18		18.18	9.09	9.09	100
RD04 All	N	0	0	0	4	8	17		14	5	6	54
	Pct	0	0	0	7.41	14.81	31.48		25.93	9.26	11.11	100
Anchor	N	0	0	0	1	1	3		2	2	3	12
	Pct	0	0	0	8.33	8.33	25		16.67	16.67	25	100
RD05 All	N	0	0	0	6	6	17		13	6	6	54
	Pct	0	0	0	11.11	11.11	31.48		24.07	11.11	11.11	100
Anchor	N	0	0	0	2		3		3	2	2	12
	Pct	0	0	0	16.67		25		25	16.67	16.67	100
RD06 All	N	0	0	0	7	5	17		13	6	6	54
	Pct	0	0	0	12.96	9.26	31.48		24.07	11.11	11.11	100
Anchor	N	0	0	0	1	2	3		4	1	1	12
	Pct	0	0	0	8.33	16.67	25		33.33	8.33	8.33	100
RD07 All	N	0	0	0	6	6	13	4	12	7	6	54
	Pct	0	0	0	11.11	11.11	24.07	7.41	22.22	12.96	11.11	100
Anchor	N	0	0	0	2	1	3	1	1	2	1	11
	Pct	0	0	0	18.18	9.09	27.27	9.09	9.09	18.18	9.09	100
RD08 All	N	0	0	0	4	5	14	4	13	8	6	54
	Pct	0	0	0	7.41	9.26	25.93	7.41	24.07	14.81	11.11	100
Anchor	N	0	0	0	2	1	2	2	2	2	1	12
	Pct	0	0	0	16.67	8.33	16.67	16.67	16.67	16.67	8.33	100
RDHS All	N	0	0	0	4	4	14	4	12	8	8	54
	Pct	0	0	0	7.41	7.41	25.93	7.41	22.22	14.81	14.81	100
Anchor	N	0	0	0	1		5	1	3	2		12
	Pct	0	0	0	8.33		41.67	8.33	25	16.67		100

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Table 7.5.1.4
Representation of Content by 2012 Anchor Sets, Science

		Strand																			
		1				2		3			4					5			6		
		Concept				Concept		Concept			Concept					Concept			Concept		Total
		1	2	3	4	1	2	1	2	3	1	2	3	4	5	1	2	3	2	3	
SC04	N	6	6	6		1	5	4	2		3	0	1	2		0	0	6	6	6	54
All	Pct	11.11	11.11	11.11		1.85	9.26	7.41	3.7		5.56	0	1.85	3.7		0	0	11.11	11.11	11.11	100
	N	2	2	2		0	3	3			2					0	0	1	2	2	19
Anchor	Pct	10.53	10.53	10.53		0	15.79	15.79			10.53					0	0	5.26	10.53	10.53	100
SC08	N	6	4	6	4	3	3	3	3		0	4	0	4		10	8				58
All	Pct	10.34	6.9	10.34	6.9	5.17	5.17	5.17	5.17		0	6.9	0	6.9		17.24	13.79				100
	N	2	1	2		1	1	0	3		0	1	0	1		3	4				19
Anchor	Pct	10.53	5.26	10.53		5.26	5.26	0	15.79		0	5.26	0	5.26		15.79	21.05				100
SCHS	N	6	6	6	4	4	2	3	2	2	6	6	6	6	6						65
All	Pct	9.23	9.23	9.23	6.15	6.15	3.08	4.62	3.08	3.08	9.23	9.23	9.23	9.23	9.23						100
	N	3	2	1	1	1	1	2	1		2	2	1	2	1						20
Anchor	Pct	15	10	5	5	5	5	10	5		10	10	5	10	5						100

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Table 7.5.1.5
Representation of Content by 2012 Anchor Sets, Writing MC

		Strand 2 Concept						Total
		1	2	3	4	5	6	
WR05 All	N	3	6	1	1	4	12	27
	Pct	11.11	22.22	3.7	3.7	14.81	44.44	100
Anchor	N	1	2	0	0	2	4	9
	Pct	11.11	22.22	0	0	22.22	44.44	100
WR06 All	N	6	5	1	2	4	9	27
	Pct	22.22	18.52	3.7	7.41	14.81	33.33	100
Anchor	N	2	2	1	1	1	2	9
	Pct	22.22	22.22	11.11	11.11	11.11	22.22	100
WR07 All	N	6	5	3	2	2	9	27
	Pct	22.22	18.52	11.11	7.41	7.41	33.33	100
Anchor	N	2	2	2	0	0	3	9
	Pct	22.22	22.22	22.22	0	0	33.33	100
WR HS All	N	8	4	3	3	3	6	27
	Pct	29.63	14.81	11.11	11.11	11.11	22.22	100
Anchor	N	2	1	1	1	1	2	8
	Pct	25	12.5	12.5	12.5	12.5	25	100

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Table 7.5.1.6 Representation of Difficulty by 2012 Anchor Sets, Mathematics

			Difficulty Parameter		P-Value	
Content	Grade	Statistic	Entire 2012 Test	All Anchor Items	Entire 2012 Test	All Anchor Items
MA	3	N	66	14	66	14
		Mean	-0.6300	-0.3300	0.6900	0.6400
		Std Dev	0.9400	0.8500	0.1500	0.1400
		Min	-2.6900	-2.2300	0.3100	0.4200
		Max	1.4900	0.7100	0.9300	0.9000
MA	4	N	68	17	68	17
		Mean	-0.1400	-0.4900	0.6600	0.7200
		Std Dev	0.9300	0.8300	0.1600	0.1300
		Min	-2.1500	-2.0700	0.2900	0.4300
		Max	1.9200	1.1700	0.9300	0.9300
MA	5	N	67	15	67	15
		Mean	0.2200	0.1400	0.6500	0.6700
		Std Dev	0.9200	0.6700	0.1500	0.1200
		Min	-2.1100	-0.9800	0.2500	0.3400
		Max	2.4200	1.6900	0.9400	0.8500
MA	6	N	68	16	68	16
		Mean	0.7100	0.6300	0.6300	0.6400
		Std Dev	0.7400	0.7000	0.1300	0.1200
		Min	-0.7900	-0.7900	0.3700	0.4400
		Max	2.1000	1.7700	0.8600	0.8500
MA	7	N	68	15	68	15
		Mean	0.8600	0.4600	0.6600	0.7200
		Std Dev	0.9100	0.9400	0.1500	0.1300
		Min	-1.0600	-1.0600	0.3300	0.5200
		Max	2.7400	1.8200	0.9100	0.9100
MA	8	N	68	17	68	17
		Mean	1.2400	1.1900	0.6300	0.6500
		Std Dev	0.8500	0.6500	0.1500	0.1100
		Min	-0.8100	-0.2500	0.3000	0.4200
		Max	3.0600	2.5900	0.9100	0.8700
MA	HS	N	85	23	85	23
		Mean	0.2500	-0.0300	0.6100	0.6600
		Std Dev	0.8900	0.7100	0.1600	0.1200
		Min	-1.5300	-1.3700	0.1300	0.4300
		Max	3.1600	1.1100	0.8800	0.8600

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Table 7.5.1.7
Representation of Difficulty by 2012 Anchor Sets, Reading

			Difficulty Parameter		P-Value	
Content	**Grade**	**Statistic**	**Entire 2012 Test**	**All Anchor Items**	**Entire 2012 Test**	**All Anchor Items**
RD	3	N	54	11	54	11
		Mean	0.2900	0.1200	0.6800	0.7000
		Std Dev	0.8900	1.0500	0.1400	0.1500
		Min	-1.8300	-1.8300	0.3800	0.4300
		Max	1.9700	1.6200	0.9400	0.9400
RD	4	N	54	12	54	12
		Mean	0.4700	0.0300	0.6800	0.7400
		Std Dev	0.8500	1.0300	0.1300	0.1400
		Min	-1.5800	-1.5800	0.2800	0.4900
		Max	2.7500	1.7400	0.9200	0.9200
RD	5	N	54	12	54	12
		Mean	0.3800	0.5300	0.6800	0.6600
		Std Dev	0.8800	0.7800	0.1400	0.1200
		Min	-2.1100	-1.1800	0.3700	0.4500
		Max	2.0900	1.8200	0.9500	0.8900
RD	6	N	54	12	54	12
		Mean	0.4500	0.1500	0.6800	0.7200
		Std Dev	0.9800	0.9400	0.1500	0.1500
		Min	-2.4600	-1.1600	0.2500	0.4300
		Max	2.8100	1.7900	0.9700	0.9100
RD	7	N	54	11	54	11
		Mean	0.5400	0.1800	0.6800	0.7500
		Std Dev	0.8000	0.4300	0.1400	0.0600
		Min	-1.0900	-0.3500	0.2600	0.6700
		Max	2.8100	0.7700	0.9000	0.8400
RD	8	N	54	12	54	12
		Mean	-0.1000	0.1700	0.7000	0.6600
		Std Dev	0.7900	0.4000	0.1300	0.0700
		Min	-1.9000	-0.4900	0.3800	0.5000
		Max	1.5700	1.0600	0.9200	0.7700
RD	HS	N	54	12	54	12
		Mean	0.4700	-0.0500	0.6500	0.7300
		Std Dev	1.0500	1.1000	0.1700	0.1700
		Min	-1.9700	-1.6300	0.2700	0.3000
		Max	2.6100	2.4400	0.9500	0.9300

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Table 7.5.1.8
Representation of Difficulty by 2012 Anchor Sets, Science

			Difficulty Parameter		P-Value	
Content	**Grade**	**Statistic**	**Entire 2012 Test**	**All Anchor Items**	**Entire 2012 Test**	**All Anchor Items**
SC	4	N	54	19	54	19
		Mean	-0.1000	-0.1900	0.6900	0.6900
		Std Dev	0.9100	1.2000	0.1300	0.1700
		Min	-2.7600	-2.7600	0.4100	0.4500
		Max	1.4400	1.3700	0.9700	0.9700
SC	8	N	58	19	58	19
		Mean	-0.0100	-0.0200	0.6800	0.6800
		Std Dev	0.9400	0.8600	0.1600	0.1500
		Min	-2.7000	-1.4800	0.2100	0.3500
		Max	2.5900	1.7000	0.9600	0.9000
SC	HS	N	65	20	65	20
		Mean	-0.3300	-0.1900	0.6300	0.6100
		Std Dev	0.8100	0.7400	0.1400	0.1500
		Min	-2.2500	-1.4000	0.3100	0.3600
		Max	1.4800	1.0500	0.9000	0.8300

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Table 7.5.1.9
Representation of Difficulty by 2012 Anchor Sets, Writing MC

			Difficulty Parameter		P-Value	
Content	**Grade**	**Statistic**	**Entire 2012 Test**	**All Anchor Items**	**Entire 2012 Test**	**All Anchor Items**
WR	5	N	27	9	27	9
		Mean	0.0400	-0.2800	0.6900	0.7400
		Std Dev	0.8600	0.8700	0.1300	0.1300
		Min	-1.9500	-1.4300	0.4500	0.4800
		Max	1.4500	1.4500	0.9200	0.8900
WR	6	N	27	9	27	9
		Mean	0.0600	-0.0200	0.6800	0.7000
		Std Dev	0.9500	0.6700	0.1500	0.1000
		Min	-2.3600	-1.0700	0.2600	0.5500
		Max	2.4700	0.8300	0.9500	0.8400
WR	7	N	27	9	27	9
		Mean	0.0400	0.0300	0.7100	0.7100
		Std Dev	0.8700	0.7100	0.1400	0.1000
		Min	-1.3300	-1.2300	0.3400	0.5700
		Max	2.1500	0.9600	0.8900	0.8700
WR	HS	N	27	8	27	8
		Mean	0.1100	0.5100	0.6900	0.6200
		Std Dev	0.8800	0.7900	0.1500	0.1500
		Min	-1.5100	-0.9800	0.3700	0.4800
		Max	1.8100	1.2700	0.9100	0.8600

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A fixed-parameter equating was implemented within WINSTEPS in order to link the 2012 reading, mathematics, and science tests to the operational reporting scale. This is implemented by constraining the 2012 parameter estimates for the common anchor items to equal the final parameter estimates obtained in the original AIMS calibration analyses. The displacement statistic, which estimates the difference between the fixed parameter and the estimate had the item parameter not been constrained, was evaluated for each anchor item. Displacement statistic greater than 0.5 or less than -0.5 are considered significant in the Rasch literature and caused the anchor item to be removed from the anchor set. The following procedure was used to examine anchor item performance and determine whether to remove anchor items that exhibited significant displacement statistics from the annual equating:

1. All anchor items with displacement statistics greater than 0.3 or less than -0.3 were flagged. Any anchor item with displacement statistic greater than 0.5 or less than -0.5 was dropped from the anchor item set. If more than one item was observed with a displacement statistic greater than 0.5 or less than -0.5, then only the first item with the largest displacement value was dropped from the anchor set. The displacement values of the remaining anchor items were re-estimated by equating the test again using the remaining anchor items. This process of equating and dropping the anchor item with the largest displacement greater than 0.5 or less than -0.5 was repeated until all displacements were acceptable. All items with displacement values greater than 0.5 or less than -0.5 were noted to be carried over for removal from the anchor set for next year.
2. Anchor items with displacement statistics greater than 0.3 and less than 0.5 or less than -0.3 and greater than -0.5 were investigated using infit MNSQ, outfit MNSQ, item difficulty, and point-biserial correlation. If either infit MNSQ or outfit MNSQ was flagged for the anchor item, the removal of this item was considered. Also, if any item showed point-biserial correlation less than 0.3, the removal of this item was considered.
3. Whenever an anchor item was removed, content and difficulty representativeness of the remaining anchor set was examined. In instances where more than one anchor item was considered for removal for a given content and grade, the content strand and difficulty level of the item was considered to prevent removal of more than one item from the same content strand and difficulty level.
4. If more than one item was removed from the same content strand, a note was made to address the problem in the setup of anchors for the succeeding year's assessment.

This procedure resulted in removing from the anchor sets for Grades 3 through 8 a total of nine items in the reading tests, a total of three items in the mathematics tests, two items from Grade 4 science, and three items from Grade 8 science. No items were removed from the anchor sets for high school mathematics and science tests. One item was removed from the linking set for the high school reading test.

7.5.2 Writing

New writing assessments were implemented in Grades 5, 6, 7, and high school in spring 2011. The assessments are composed of multiple-choice items and an essay prompt. There are 27 multiple-choice items and a single essay prompt contributing to a student's AIMS score at each grade. The test blueprint is shown in Table 3.2.6. In Grades 5, 6, and 7, eighteen of the multiple-choice items are AIMS items, nine are dual purpose AIMS and NRT items, and there are an additional eleven NRT items to allow for the creation of a Stanford 10 norm-referenced score. The high school test contains 27 AIMS multiple-choice items. The essay prompt is scored holistically using a 6-point scoring rubric. In Grades 5, 6, and 7, the essay prompt is scored by one reader, while at the high school level, the essay prompt is scored by two readers with identical or adjacent scores being

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summed to produce a final essay score. Non-adjacent scores are reviewed and scored by a supervisor whose score becomes the final score. The AIMS test scores are constructed such that the 27 multiple-choice items account for approximately 40% of the total test score and the score on the essay response counts for approximately 60% of the total test score. The high school writing multiple-choice items are embedded in a single test along with the prompt, while the elementary tests combine the writing multiple-choice along with the reading multiple-choice items. These items are administered in three sessions with the prompt administered during a separate session.
The writing tests in Grades 5, 6, and 7 contain 27 multiple-choice items and one essay prompt, which is scored holistically on a six-point scale. Combining the two components without weighting results in 33 total score points. In this case, the multiple-choice items account for 27/33 of the total score, or 82 percent, and the essay accounts for the remaining 18 percent. In order to implement a weighting scheme such that the multiple-choice items account for approximately 40 percent and the essay approximately 60 percent of the total score, the essay score is weighted by a factor of 7. In this way, the test score is composed of 27 points for the multiple-choice items and 42 points for the essay item for a total of 69 points. This results in the multiple-choice component accounting for 27/69 of the total score, or 39 percent, and the essay component accounting for 42/69 of the total score, or 61 percent.

7.5.2.1 **Weighting the Multiple-Choice and Essay Components**

The writing test at the high school level consists of 27 multiple-choice items and an essay prompt. The essay is scored by two raters with exact or adjacent scores being summed for a final essay score ranging from 2 to 12 points. In order to achieve the desired weighting of the multiple-choice and essay components, the multiple-choice score is multiplied by 2 and the essay score is multiplied by 7. In this way, there are 2*27 + 7*12, or 138 total points for the test with the multiple-choice items accounting for 54/138, or 39 percent of the total score, and the essay accounting for 84/138, or 61 percent of the total score.

7.5.2.2 **Calibration**

Calibration of the writing tests is performed using Winsteps, version 3.69. A two-step process is used in which the multiple-choice items are calibrated first without including the essay score. Then the multiple-choice item parameters from the initial calibration are held fixed and the essay is calibrated. During this second step, the IWEIGHT command is used with a weight of 7 for the essay response for Grades 5, 6, and 7, and for the high school test, the IWEIGHT command is used with a weight of 2 for the multiple-choice items and a weight of 7 for the essay response.

7.5.2.3 **Standard Setting**

Performance standards were determined separately for the multiple-choice and essay components of the writing tests. The Item Mapping method of standard setting was used to identify the standard on the theta scale for each performance level for the multiple-choice component. The performance standards were set for the essay component such that the theta value for each performance level corresponded approximately to a specific raw score on the essay. For Grades 5, 6, and 7, the value of theta corresponding raw scores of 3, 4, and 5.5 were used as the cut points for Approaches, Meets, and Exceeds, respectively. For the high school test, the value of theta corresponding raw scores of 5, 7, and 11 were used as the cut points for Approaches, Meets, and Exceeds, respectively. The final theta cut points were determined by weighting the multiple-choice theta at each cut point by 40%

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and the essay theta at each cut by 60% and combining them into a final theta cut point for each performance level.

7.5.3 Scoring and Standard Error of Measurement

Item response theory makes available two types of scoring: number-correct and item-pattern. With number-correct scoring, the value of theta corresponding to each number-correct score (or raw score) is converted to a scale score. Item-pattern scoring produces a scale score, taking into account not only how many items were answered correctly but also which items and the characteristics of those items. For groups of 25 or more students, the two methods produce tau-equivalent results (Yen, 1984.) Tau-equivalent means that examinees are expected to receive the same score on average between the two methods. Number-correct scoring was used to derive scales scores for both the AIMS CRT tests and the AIMS NRT tests.

Typically, a test score is obtained from a single observation of performance and represents an estimate of the trait being measured. As an estimate, an observed test score contains some measurement error and does not perfectly reflect an individual's true score. The degree of measurement error in a test score can be estimated using a statistic called the standard error of measurement (SEM).

A student's exact true score cannot be known. The true score is defined as the average test score that would result if the test could be administered repeatedly without the effects of practice or fatigue. The standard error of measurement is an estimate of the standard deviation of an individual's observed scores from these repeated administrations. For practical purposes, this statistic can be used to obtain a range within which a student's true score is likely to fall. Using item response theory, the standard error of measurement can be calculated for every possible scale score.

Tables 7.5.3.1 through 7.5.3.22 present raw score to scale score conversion tables and IRT conditional standard errors of measurement for all AIMS CRT tests. The values in bold represent the scale score with the smallest value greater than or equal to the established cut score for each grade level and content area. The "greater than" rule is evoked when the actual scale score is not observed in any given table. Note that the scores for writing in Grades 5, 6, and 7 (Tables 7.5.3.15 – 7.5.3.17) range from 0 to 69, and the scores for writing in high school (Tables 7.5.3.18 and 7.5.3.19) range from 0 to 138. This is because of the differential weighting of the multiple-choice items and the essay described above. Tables 7.5.3.23 through 7.5.3.28 present IRT conditional standard errors of measurement for all AIMS NRT tests.

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Table 7.5.3.1
Spring 2012 AIMS Raw Score to Scale Score Table
Mathematics CRT Grade 3

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	100	60	34	329	11
1	132	43	35	332	11
2	163	31	36	335	11
3	181	26	37	338	11
4	195	22	38	342	12
5	205	20	39	345	12
6	214	19	**40**	**348**	**12**
7	222	18	41	351	12
8	229	17	42	354	12
9	235	16	43	358	12
10	241	15	44	361	12
11	247	15	45	365	12
12	252	14	46	368	12
13	256	14	47	372	12
14	261	14	48	375	13
15	265	13	49	379	13
16	269	13	50	383	13
17	273	13	51	387	13
18	277	13	52	392	14
19	281	12	53	396	14
20	284	12	54	401	14
21	288	12	**55**	**406**	**15**
22	291	12	56	411	15
23	294	12	57	417	16
24	298	12	58	423	17
25	301	12	59	430	18
26	**304**	**12**	60	438	19
27	307	12	61	447	20
28	311	12	62	458	22
29	314	11	63	471	26
30	317	11	64	490	31
31	320	11	65	521	43
32	323	11	66	540	60
33	326	11			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.2
Spring 2012 AIMS Raw Score to Scale Score Table
Mathematics CRT Grade 4

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	120	60	35	349	11
1	153	43	36	352	11
2	183	31	37	355	11
3	202	25	38	358	11
4	215	22	39	361	11
5	226	20	40	364	11
6	235	19	**41**	**368**	**11**
7	242	18	42	371	12
8	249	17	43	374	12
9	255	16	44	377	12
10	261	15	45	380	12
11	266	15	46	384	12
12	271	14	47	387	12
13	276	14	48	391	12
14	280	13	49	394	12
15	284	13	50	398	13
16	288	13	51	402	13
17	292	13	52	406	13
18	296	12	53	410	13
19	299	12	54	414	14
20	303	12	**55**	**418**	**14**
21	306	12	56	423	14
22	310	12	57	428	15
23	313	12	58	433	15
24	316	12	59	439	16
25	319	12	60	445	17
26	322	11	61	452	18
27	326	11	62	460	19
28	329	11	63	469	20
29	**332**	**11**	64	480	22
30	335	11	65	493	26
31	338	11	66	512	31
32	341	11	67	543	43
33	344	11	68	560	60
34	346	11			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.3
Spring 2012 AIMS Raw Score to Scale Score Table
Mathematics CRT Grade 5

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	140	60	34	364	11
1	167	43	35	367	11
2	198	31	36	370	11
3	217	26	37	373	11
4	230	23	38	376	11
5	241	20	39	379	11
6	250	19	**40**	**382**	**11**
7	258	18	41	385	11
8	265	17	42	388	12
9	272	16	43	391	12
10	277	15	44	394	12
11	283	15	45	398	12
12	288	14	46	401	12
13	292	14	47	405	12
14	297	14	48	408	12
15	301	13	49	412	13
16	305	13	50	416	13
17	309	13	51	419	13
18	313	13	52	423	13
19	317	12	53	428	14
20	320	12	54	432	14
21	324	12	**55**	**437**	**14**
22	327	12	56	442	15
23	330	12	57	447	15
24	333	12	58	453	16
25	337	12	59	459	17
26	340	11	60	466	18
27	343	11	61	474	19
28	346	11	62	483	20
29	**349**	**11**	63	494	22
30	352	11	64	507	26
31	355	11	65	526	31
32	358	11	66	556	43
33	361	11	67	580	60

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.4
Spring 2012 AIMS Raw Score to Scale Score Table
Mathematics CRT Grade 6

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	160	60	35	385	11
1	194	43	36	388	11
2	224	31	37	391	11
3	242	25	38	394	11
4	256	22	39	397	11
5	266	20	**40**	**400**	**11**
6	275	18	41	402	11
7	282	17	42	405	11
8	289	16	43	408	11
9	295	16	44	411	11
10	301	15	45	415	11
11	306	14	46	418	12
12	310	14	47	421	12
13	315	14	48	424	12
14	319	13	49	428	12
15	323	13	50	431	12
16	327	13	51	435	12
17	331	12	52	438	13
18	334	12	53	442	13
19	338	12	**54**	**446**	**13**
20	341	12	55	451	14
21	344	12	56	455	14
22	348	12	57	460	14
23	351	11	58	465	15
24	354	11	59	470	16
25	357	11	60	477	16
26	360	11	61	483	17
27	363	11	62	491	19
28	**366**	**11**	63	500	20
29	368	11	64	510	22
30	371	11	65	523	25
31	374	11	66	541	31
32	377	11	67	572	43
33	380	11	68	600	60
34	383	11			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.5
Spring 2012 AIMS Raw Score to Scale Score Table
Mathematics CRT Grade 7

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	180	60	35	392	11
1	195	43	36	395	11
2	226	31	37	398	11
3	244	25	38	401	11
4	257	22	39	404	11
5	268	20	40	407	11
6	277	19	41	410	11
7	285	18	**42**	**413**	**11**
8	292	17	43	416	12
9	298	16	44	420	12
10	303	15	45	423	12
11	309	15	46	426	12
12	314	14	47	429	12
13	318	14	48	433	12
14	323	14	49	436	12
15	327	13	50	440	12
16	331	13	51	444	13
17	335	13	52	448	13
18	339	12	53	452	13
19	342	12	54	456	13
20	346	12	**55**	**460**	**14**
21	349	12	56	465	14
22	353	12	57	470	15
23	356	12	58	475	15
24	359	12	59	481	16
25	362	12	60	487	17
26	365	11	61	494	18
27	368	11	62	502	19
28	371	11	63	511	20
29	375	11	64	521	22
30	377	11	65	535	25
31	380	11	66	553	31
32	**383**	**11**	67	584	43
33	386	11	68	620	60
34	389	11			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.6
Spring 2012 AIMS Raw Score to Scale Score Table
Mathematics CRT Grade 8

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	60	35	408	11
1	213	43	**36**	**411**	**11**
2	243	31	37	414	11
3	262	25	38	417	11
4	275	22	39	419	11
5	286	20	40	422	11
6	295	19	41	425	11
7	302	17	**42**	**428**	**11**
8	309	17	43	431	11
9	315	16	44	435	12
10	321	15	45	438	12
11	326	15	46	441	12
12	331	14	47	444	12
13	336	14	48	448	12
14	340	13	49	451	12
15	344	13	50	455	12
16	348	13	51	458	13
17	352	13	52	462	13
18	355	12	53	466	13
19	359	12	54	470	13
20	362	12	**55**	**475**	**14**
21	366	12	56	479	14
22	369	12	57	484	15
23	372	12	58	490	15
24	375	11	59	495	16
25	379	11	60	501	17
26	382	11	61	508	18
27	385	11	62	516	19
28	388	11	63	525	20
29	390	11	64	535	22
30	393	11	65	549	25
31	396	11	66	567	31
32	399	11	67	598	43
33	402	11	68	640	60
34	405	11			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.7
Spring 2012 AIMS Raw Score to Scale Score Table
Mathematics CRT High School

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	59	43	477	10
1	300	42	44	479	10
2	308	30	45	481	10
3	326	25	46	483	10
4	338	22	47	486	10
5	348	19	**48**	**488**	**10**
6	357	18	49	490	10
7	364	17	50	493	10
8	371	16	51	495	10
9	376	15	52	497	10
10	382	14	53	500	10
11	386	14	54	502	10
12	391	13	55	505	10
13	395	13	56	507	10
14	399	13	57	510	10
15	403	12	58	512	10
16	406	12	59	515	10
17	410	12	60	518	11
18	413	12	61	520	11
19	416	11	62	523	11
20	419	11	63	526	11
21	422	11	64	529	11
22	425	11	65	532	11
23	428	11	66	535	11
24	431	11	**67**	**539**	**12**
25	434	10	68	542	12
26	436	10	69	545	12
27	439	10	70	549	12
28	441	10	71	553	13
29	444	10	72	557	13
30	446	10	73	561	14
31	449	10	74	566	14
32	451	10	75	571	15
33	454	10	76	576	15
34	456	10	77	582	16
35	458	10	78	589	17
36	461	10	79	596	18
37	463	10	80	605	20
38	465	10	81	615	22
39	468	10	82	629	25
40	470	10	83	647	30
41	**472**	**10**	84	677	42
42	474	10	85	700	59

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.8
Spring 2012 AIMS Raw Score to Scale Score Table
Reading CRT Grade 3

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	59	28	424	12
1	242	42	29	428	12
2	272	30	**30**	**431**	**12**
3	290	25	31	435	12
4	303	22	32	439	12
5	314	20	33	442	12
6	323	19	34	446	12
7	331	17	35	450	13
8	338	17	36	454	13
9	344	16	37	458	13
10	350	15	38	462	13
11	356	15	39	466	13
12	361	14	40	471	14
13	366	14	41	475	14
14	370	14	42	480	14
15	375	13	43	485	15
16	**379**	**13**	44	490	15
17	383	13	45	496	16
18	387	13	46	502	16
19	391	13	47	509	17
20	395	13	**48**	**517**	**18**
21	399	12	49	526	20
22	403	12	50	536	22
23	406	12	51	549	25
24	410	12	52	567	30
25	414	12	53	597	42
26	417	12	54	640	58
27	421	12			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.9
Spring 2012 AIMS Raw Score to Scale Score Table
Reading CRT Grade 4

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	220	54	28	446	11
1	279	38	29	449	11
2	307	28	**30**	**452**	**11**
3	324	23	31	456	11
4	336	20	32	459	11
5	346	18	33	462	11
6	354	17	34	466	11
7	361	16	35	469	11
8	368	15	36	473	12
9	373	15	37	476	12
10	379	14	38	480	12
11	384	14	39	484	12
12	389	13	40	488	12
13	393	13	41	492	13
14	397	12	42	496	13
15	401	12	43	501	13
16	**405**	**12**	44	506	14
17	409	12	45	511	14
18	413	12	46	517	15
19	416	12	47	523	16
20	420	11	48	530	17
21	423	11	**49**	**538**	**18**
22	426	11	50	548	20
23	430	11	51	560	23
24	433	11	52	577	28
25	436	11	53	604	38
26	439	11	54	660	54
27	443	11			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.10
Spring 2012 AIMS Raw Score to Scale Score Table
Reading CRT Grade 5

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	240	57	28	466	12
1	288	41	**29**	**470**	**12**
2	317	29	30	473	12
3	335	25	31	477	12
4	348	22	32	480	12
5	359	20	33	484	12
6	368	18	34	488	12
7	376	17	35	491	12
8	382	16	36	495	12
9	389	15	37	499	13
10	394	15	38	503	13
11	400	14	39	507	13
12	405	14	40	511	13
13	410	14	41	516	14
14	414	13	42	521	14
15	418	13	43	525	14
16	423	13	44	531	15
17	**427**	**13**	45	536	15
18	431	12	46	543	16
19	434	12	47	549	17
20	438	12	**48**	**557**	**18**
21	442	12	49	565	19
22	445	12	50	576	21
23	449	12	51	589	24
24	452	12	52	606	29
25	456	12	53	635	41
26	459	12	54	675	57
27	463	12			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.11
Spring 2012 AIMS Raw Score to Scale Score Table
Reading CRT Grade 6

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	250	58	**28**	**478**	**12**
1	293	42	29	482	12
2	324	30	30	486	12
3	342	25	31	489	12
4	356	22	32	493	12
5	367	20	33	497	12
6	376	19	34	500	12
7	384	18	35	504	13
8	391	17	36	508	13
9	398	16	37	512	13
10	404	15	38	516	13
11	409	15	39	520	13
12	415	14	40	525	14
13	420	14	41	529	14
14	424	14	42	534	14
15	429	13	43	539	15
16	**433**	**13**	44	545	15
17	437	13	45	551	16
18	441	13	46	557	16
19	445	13	47	564	17
20	449	12	**48**	**572**	**18**
21	453	12	49	581	20
22	457	12	50	591	22
23	460	12	51	605	25
24	464	12	52	623	30
25	468	12	53	652	41
26	471	12	54	690	58
27	475	12			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.12
Spring 2012 AIMS Raw Score to Scale Score Table
Reading CRT Grade 7

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	260	62	28	495	13
1	307	44	29	499	13
2	339	32	30	503	13
3	358	26	31	506	13
4	371	23	32	510	13
5	382	21	33	514	13
6	392	19	34	518	13
7	400	18	35	522	13
8	407	17	36	526	13
9	414	16	37	530	14
10	420	16	38	534	14
11	425	15	39	539	14
12	430	15	40	544	14
13	435	15	41	548	15
14	440	14	42	553	15
15	**445**	**14**	43	559	15
16	449	14	44	564	16
17	453	13	45	571	17
18	457	13	46	577	17
19	461	13	47	585	18
20	465	13	**48**	**593**	**20**
21	469	13	49	602	21
22	473	13	50	613	23
23	477	13	51	628	26
24	481	13	52	647	32
25	484	13	53	679	44
26	488	13	54	720	62
27	**492**	**13**			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.13
Spring 2012 AIMS Raw Score to Scale Score Table
Reading CRT Grade 8

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	270	70	28	477	14
1	270	50	29	481	14
2	297	36	30	485	14
3	319	30	31	489	14
4	335	26	32	494	15
5	348	24	33	498	15
6	358	22	**34**	**502**	**15**
7	367	21	35	507	15
8	376	20	36	511	15
9	383	19	37	516	15
10	390	18	38	521	16
11	397	18	39	526	16
12	403	17	40	531	16
13	408	17	41	536	17
14	414	16	42	542	17
15	419	16	43	548	17
16	424	16	44	554	18
17	429	15	45	561	19
18	434	15	46	569	20
19	438	15	47	577	21
20	443	15	48	586	22
21	447	15	49	597	24
22	451	15	**50**	**609**	**26**
23	**456**	**15**	51	625	30
24	460	14	52	647	36
25	464	14	53	683	50
26	468	14	54	800	70
27	472	14			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.14
Spring 2012 AIMS Raw Score to Scale Score Table
Reading CRT High School

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	500	61	28	681	13
1	500	44	29	684	13
2	515	32	30	688	13
3	534	26	31	692	13
4	548	23	32	696	13
5	560	21	33	700	13
6	570	20	34	704	13
7	578	19	35	709	13
8	586	18	36	713	14
9	593	17	37	717	14
10	599	16	38	722	14
11	605	16	39	726	14
12	611	15	40	731	14
13	616	15	41	736	15
14	621	15	42	741	15
15	626	14	43	747	16
16	**631**	**14**	44	753	16
17	635	14	45	759	17
18	640	14	46	766	17
19	644	14	**47**	**773**	**18**
20	648	13	48	782	20
21	653	13	49	791	21
22	657	13	50	803	23
23	661	13	51	817	26
24	665	13	52	836	32
25	669	13	53	867	44
26	673	13	54	900	61
27	**677**	**13**			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.15
Spring 2012 AIMS Raw Score to Scale Score Table
Writing CRT Grade 5

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	42	35	460	10
1	300	42	36	463	10
2	300	42	37	467	10
3	300	42	38	470	10
4	300	42	39	473	10
5	300	42	40	477	10
6	300	42	41	480	10
7	300	42	42	483	10
8	300	30	43	487	10
9	321	22	44	491	10
10	336	19	**45**	**494**	**10**
11	347	17	46	498	11
12	356	16	47	502	11
13	364	15	48	506	11
14	371	14	49	511	11
15	378	14	50	515	12
16	384	13	51	520	12
17	390	13	52	525	12
18	395	12	53	531	13
19	400	12	54	536	13
20	405	12	55	543	14
21	409	11	56	549	14
22	414	11	57	556	15
23	418	11	58	564	15
24	422	11	59	572	15
25	426	11	60	580	16
26	429	10	61	589	16
27	433	10	62	599	17
28	437	10	**63**	**609**	**17**
29	**440**	**10**	64	620	18
30	444	10	65	631	19
31	447	10	66	644	20
32	450	10	67	660	23
33	454	10	68	684	31
34	457	10	69	700	42

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.16
Spring 2012 AIMS Raw Score to Scale Score Table
Writing CRT Grade 6

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	45	35	461	10
1	300	45	36	465	10
2	300	45	37	468	10
3	300	45	38	472	10
4	300	45	39	475	10
5	300	45	40	479	11
6	300	45	41	482	11
7	300	45	42	486	11
8	300	32	43	490	11
9	318	24	**44**	**494**	**11**
10	333	20	45	498	11
11	345	18	46	502	12
12	354	17	47	507	12
13	363	16	48	511	12
14	370	15	49	516	13
15	377	14	50	521	13
16	383	14	51	527	13
17	389	13	52	533	14
18	394	13	53	539	14
19	399	12	54	546	15
20	404	12	55	553	15
21	409	12	56	560	15
22	413	12	57	567	16
23	418	11	58	575	16
24	422	11	**59**	**584**	**16**
25	426	11	60	592	16
26	429	11	61	601	17
27	433	11	62	610	17
28	437	11	63	620	18
29	441	11	64	630	18
30	444	10	65	642	19
31	448	10	66	655	21
32	**451**	**10**	67	671	25
33	454	10	68	697	33
34	458	10	69	700	45

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.17
Spring 2012 AIMS Raw Score to Scale Score Table
Writing CRT Grade 7

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	40	35	461	9
1	300	40	36	465	9
2	300	40	37	468	9
3	300	40	38	471	9
4	300	40	39	474	10
5	300	40	40	478	10
6	300	40	41	481	10
7	300	40	42	485	10
8	315	29	43	488	10
9	336	21	44	492	10
10	349	18	**45**	**496**	**10**
11	360	16	46	500	11
12	368	15	47	504	11
13	375	14	48	509	11
14	381	13	49	513	12
15	387	12	50	519	12
16	393	12	51	524	13
17	398	12	52	530	13
18	402	11	53	537	14
19	407	11	54	544	14
20	411	11	55	552	15
21	415	10	56	561	15
22	419	10	57	569	16
23	422	10	58	579	16
24	426	10	59	588	17
25	429	10	**60**	**598**	**17**
26	433	10	61	609	17
27	436	10	62	620	18
28	439	9	63	632	18
29	443	9	64	643	18
30	446	9	65	656	19
31	449	9	66	669	20
32	**452**	**9**	67	685	22
33	455	9	68	700	30
34	458	9	69	700	40

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.18
Spring 2012 AIMS Raw Score to Scale Score Table
Writing CRT High School Prompt A

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	54	35	380	9	70	451	9	105	535	11
1	300	54	36	382	9	71	453	9	106	538	11
2	300	54	37	384	9	72	455	9	107	541	11
3	300	54	38	387	9	73	457	9	108	544	11
4	300	54	39	389	9	74	459	9	109	548	11
5	300	54	40	391	9	75	461	9	110	551	11
6	300	54	41	393	9	76	463	9	111	554	11
7	300	54	42	395	9	77	465	9	112	558	11
8	300	54	43	397	9	78	467	9	113	561	12
9	300	54	44	399	9	79	469	9	114	564	12
10	300	54	45	401	9	80	471	9	115	568	12
11	300	54	46	403	9	81	473	9	116	571	12
12	300	54	47	405	9	82	475	9	117	575	12
13	300	54	48	407	9	83	477	9	118	579	12
14	300	54	49	409	9	**84**	**480**	**9**	119	582	12
15	300	38	50	411	9	85	482	9	120	586	12
16	300	26	51	413	9	86	484	9	**121**	**590**	**13**
17	307	21	52	415	9	87	486	9	122	594	13
18	317	18	53	417	9	88	489	10	123	599	13
19	325	16	54	419	9	89	491	10	124	603	13
20	331	15	55	421	9	90	493	10	125	608	14
21	336	14	56	423	9	91	496	10	126	612	14
22	341	13	57	425	9	92	498	10	127	618	14
23	345	13	58	427	9	93	501	10	128	623	15
24	349	12	59	429	9	94	503	10	129	629	15
25	353	12	60	431	9	95	506	10	130	635	16
26	356	11	**61**	**433**	**9**	96	508	10	131	642	17
27	359	11	62	435	9	97	511	10	132	649	18
28	362	11	63	437	9	98	514	10	133	658	19
29	365	10	64	439	9	99	517	11	134	668	21
30	368	10	65	441	9	100	520	11	135	680	24
31	370	10	66	443	9	101	523	11	136	697	28
32	373	10	67	445	9	102	526	11	137	700	40
33	375	10	68	447	9	103	529	11	138	700	56
34	377	10	69	449	9	104	532	11			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.19
Spring 2012 AIMS Raw Score to Scale Score Table
Writing CRT High School Prompt T

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	55	35	386	10	70	457	9	105	537	11
1	300	55	36	389	10	71	459	9	106	540	11
2	300	55	37	391	10	72	461	9	107	543	11
3	300	55	38	393	10	73	463	9	108	546	11
4	300	55	39	396	10	74	465	9	109	549	11
5	300	55	40	398	9	75	467	9	110	552	11
6	300	55	41	400	9	76	469	9	111	555	11
7	300	55	42	403	9	77	471	9	112	558	11
8	300	55	43	405	9	78	473	9	113	561	11
9	300	55	44	407	9	79	475	9	114	564	11
10	300	55	45	409	9	80	477	9	115	567	11
11	300	55	46	411	9	81	479	9	116	570	11
12	300	55	47	413	9	**82**	**481**	**9**	117	573	11
13	300	55	48	415	9	83	483	9	118	576	11
14	300	55	49	417	9	84	485	9	119	579	11
15	300	38	50	419	9	85	487	9	120	582	11
16	300	26	51	421	9	86	489	9	121	585	11
17	311	21	52	423	9	87	491	9	**122**	**588**	**11**
18	321	19	53	425	9	88	493	9	123	592	12
19	329	17	54	427	9	89	496	9	124	595	12
20	335	15	55	429	9	90	498	9	125	599	12
21	341	14	56	431	9	91	500	10	126	603	13
22	345	13	**57**	**433**	**9**	92	502	10	127	607	13
23	350	13	58	435	9	93	505	10	128	612	14
24	354	12	59	437	9	94	507	10	129	617	14
25	357	12	60	439	9	95	510	10	130	622	15
26	361	11	61	440	9	96	512	10	131	628	16
27	364	11	62	442	9	97	515	10	132	635	17
28	367	11	63	444	9	98	518	10	133	643	19
29	370	11	64	446	9	99	520	10	134	653	21
30	373	10	65	448	9	100	523	10	135	665	23
31	376	10	66	450	9	101	526	10	136	682	28
32	379	10	67	452	9	102	529	11	137	700	40
33	381	10	68	454	9	103	531	11	138	700	56
34	384	10	69	455	9	104	534	11			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.20
Spring 2012 AIMS Raw Score to Scale Score Table
Science CRT Grade 4

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	70	28	469	14
1	247	50	29	473	14
2	283	36	30	478	14
3	305	30	31	482	14
4	322	27	32	486	15
5	335	24	33	491	15
6	346	23	34	495	15
7	356	21	**35**	**500**	**15**
8	365	20	36	504	15
9	372	19	37	509	15
10	380	18	38	514	15
11	386	18	39	519	16
12	393	17	40	524	16
13	399	17	41	529	16
14	404	16	42	535	17
15	410	16	43	541	17
16	415	16	**44**	**547**	**18**
17	420	16	45	554	19
18	425	15	46	561	19
19	430	15	47	569	21
20	434	15	48	579	22
21	439	15	49	589	24
22	443	15	50	601	26
23	448	15	51	617	30
24	452	15	52	638	36
25	456	14	53	674	50
26	461	14	54	800	70
27	**465**	**14**			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.21
Spring 2012 AIMS Raw Score to Scale Score Table
Science CRT Grade 8

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	69	**30**	**476**	**14**
1	257	49	31	479	14
2	292	35	32	483	14
3	313	29	33	487	14
4	329	26	34	491	14
5	342	23	35	495	14
6	352	22	**36**	**500**	**14**
7	361	20	37	504	14
8	370	19	38	508	14
9	377	18	39	512	15
10	384	18	40	517	15
11	390	17	41	521	15
12	396	17	42	526	15
13	402	16	43	531	15
14	407	16	**44**	**536**	**16**
15	412	15	45	541	16
16	417	15	46	547	17
17	422	15	47	553	17
18	426	15	48	559	18
19	431	15	49	566	18
20	435	14	50	573	19
21	439	14	51	581	20
22	444	14	52	591	22
23	448	14	53	601	23
24	452	14	54	614	26
25	456	14	55	629	29
26	460	14	56	651	35
27	464	14	57	686	49
28	468	14	58	800	69
29	472	14			

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.22
Spring 2012 AIMS Raw Score to Scale Score Table
Science CRT High School

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	74	33	448	14
1	214	53	34	452	14
2	252	38	35	456	14
3	274	31	36	460	14
4	291	27	37	463	14
5	304	25	38	467	14
6	315	23	39	471	14
7	324	21	**40**	**475**	**14**
8	332	20	41	479	14
9	340	19	42	483	14
10	347	19	43	487	15
11	353	18	44	491	15
12	359	17	45	495	15
13	365	17	46	499	15
14	370	17	**47**	**504**	**15**
15	376	16	48	508	16
16	380	16	49	513	16
17	385	16	50	518	16
18	390	15	51	523	17
19	394	15	52	528	17
20	398	15	53	534	17
21	403	15	**54**	**540**	**18**
22	407	15	55	546	19
23	411	14	56	553	19
24	415	14	57	561	20
25	419	14	58	569	21
26	422	14	59	579	23
27	426	14	60	590	25
28	430	14	61	603	27
29	434	14	62	619	31
30	437	14	63	642	38
31	441	14	64	679	53
32	445	14	65	800	74

Note. SEM is the standard error of measurement for the scale score.
Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are in boldface.

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Table 7.5.3.23
Spring 2012 AIMS NRT SEM Table
Grade 3

	Reading		Language		Mathematics	
Raw Score	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	446	49	449	49	430	49
1	469	36	473	36	453	36
2	496	26	500	27	480	26
3	513	22	517	23	496	22
4	526	20	531	21	509	20
5	536	18	542	19	519	18
6	545	17	552	18	528	17
7	554	17	561	18	536	16
8	561	16	569	17	543	16
9	569	16	578	17	550	15
10	576	16	586	17	557	15
11	582	15	594	17	563	15
12	589	15	602	17	569	15
13	596	15	611	18	576	15
14	603	15	621	18	582	15
15	610	16	631	19	588	15
16	617	16	642	21	595	15
17	624	16	656	23	602	16
18	632	17	674	27	609	16
19	641	18	702	37	617	17
20	650	19	725	49	626	18
21	661	20			636	20
22	674	23			649	22
23	691	27			665	26
24	718	36			692	36
25	741	49			715	49

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Table 7.5.3.24
Spring 2012 AIMS NRT SEM Table
Grade 4

	Reading		Language		Mathematics	
Raw Score	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	464	49	460	49	452	49
1	488	36	484	37	475	36
2	514	26	512	27	502	26
3	531	22	530	23	519	22
4	543	20	543	21	531	20
5	554	18	554	19	542	18
6	563	17	564	18	551	17
7	571	17	573	17	559	17
8	579	16	582	17	567	16
9	586	16	590	17	574	16
10	592	15	598	17	582	16
11	599	15	606	17	589	16
12	605	15	614	17	595	16
13	612	15	622	17	602	16
14	618	15	631	18	609	16
15	625	15	641	19	617	16
16	632	16	651	20	624	16
17	639	16	664	23	632	17
18	646	16	681	27	640	17
19	654	17	708	36	649	18
20	663	18	732	49	659	19
21	674	20			670	21
22	686	22			684	23
23	703	26			702	27
24	730	36			729	37
25	753	49			753	49

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Table 7.5.3.25
Spring 2012 AIMS NRT SEM Table
Grade 5

	Reading		Language		Mathematics	
Raw Score	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	484	49	477	50	496	49
1	507	36	502	37	519	36
2	534	26	530	27	546	26
3	550	22	548	23	562	22
4	562	20	561	21	574	20
5	572	18	572	19	584	18
6	581	17	582	18	593	17
7	589	16	591	17	601	16
8	596	16	599	17	608	16
9	603	15	607	16	615	15
10	609	15	614	16	621	15
11	616	15	622	16	627	15
12	622	15	629	16	634	15
13	628	15	637	17	640	15
14	634	15	646	17	646	15
15	640	15	655	18	652	15
16	647	15	665	20	659	15
17	653	16	678	22	665	16
18	660	16	694	26	673	16
19	668	17	721	36	680	17
20	677	18	744	49	689	18
21	687	20			699	20
22	699	22			711	22
23	715	26			728	26
24	742	36			754	36
25	765	49			777	49

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Table 7.5.3.26
Spring 2012 AIMS NRT SEM Table
Grade 6

	Reading		Language		Mathematics	
Raw Score	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	493	49	487	49	516	49
1	516	36	510	36	539	36
2	544	27	537	26	565	26
3	561	23	553	22	581	22
4	574	20	566	20	593	19
5	584	19	577	19	602	18
6	594	18	586	18	611	17
7	602	17	595	17	619	16
8	610	16	603	17	626	15
9	617	16	611	16	632	15
10	624	15	618	16	638	15
11	630	15	626	16	644	14
12	637	15	634	17	650	14
13	644	15	642	17	656	14
14	650	15	650	18	662	14
15	657	15	660	19	668	15
16	663	16	671	20	675	15
17	671	16	684	23	681	15
18	678	17	701	27	688	16
19	686	17	728	36	696	17
20	695	18	752	49	704	18
21	706	20			714	19
22	718	22			726	22
23	735	26			742	26
24	762	36			768	36
25	785	49			791	49

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Table 7.5.3.27
Spring 2012 AIMS NRT SEM Table
Grade 7

	Reading		Language		Mathematics	
Raw Score	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	497	49	507	49	521	49
1	521	36	530	36	544	36
2	547	26	557	26	570	26
3	564	22	574	22	587	22
4	577	20	586	20	599	20
5	587	18	597	19	609	18
6	597	17	606	18	617	17
7	605	17	615	17	625	16
8	612	16	623	17	632	16
9	620	16	630	16	639	15
10	627	15	638	16	646	15
11	633	15	645	16	652	15
12	640	15	653	17	658	15
13	646	15	661	17	664	15
14	653	15	670	18	671	15
15	660	15	680	19	677	15
16	667	16	691	20	683	15
17	674	16	704	23	690	16
18	682	17	721	27	698	16
19	690	17	748	37	705	17
20	699	19	772	49	714	18
21	710	20			724	20
22	722	22			737	22
23	739	27			753	26
24	766	36			780	36
25	790	49			803	49

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Table 7.5.3.28
Spring 2012 AIMS NRT SEM Table
Grade 8

	Reading		Language		Mathematics	
Raw Score	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	511	49	504	49	547	49
1	534	36	527	36	571	36
2	561	26	554	26	597	26
3	577	22	570	22	614	22
4	590	20	583	20	626	20
5	600	18	594	19	636	18
6	609	17	603	18	645	17
7	617	16	612	17	653	16
8	624	16	620	17	660	16
9	631	15	627	16	667	15
10	638	15	635	16	673	15
11	644	15	642	16	679	15
12	650	15	650	17	685	15
13	657	15	658	17	692	15
14	663	15	667	18	698	15
15	669	15	676	19	704	15
16	676	15	687	20	710	15
17	683	16	700	22	717	16
18	690	16	717	27	724	16
19	698	17	744	36	732	17
20	707	18	767	49	740	18
21	717	20			750	19
22	730	22			762	22
23	746	26			779	26
24	773	36			805	36
25	796	49			828	49

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PART 8: TEST RESULTS

8.1 Data

Part 8 of this technical report contains information about the results of the Spring 2012 administration of AIMS 3-8 and AIMS High School. The first section provides information on the CRT scores from the AIMS assessments. The second section provides information on the NRT scores from AIMS 3-8. The AERA/APA/NCME standards addressed in Part 8 include: 1.5, 4.3, 4.5, 4.6, 4.7, 6.35, 7.1, 7.10, 13.15, and 13.19. Please note that the corresponding information for the Fall 2011 AIMS administration can be found in Appendix A.

Results presented below are based on population data contained within the final electronic data files. The results presented in this part of the technical report may differ slightly from final testing results presented on the Arizona Department of Education website due to slight differences in the application of exclusion rules. Official final results typically use more detailed school-level information than is used to conduct research analyses. The results in the following tables are presented as evidence of reliability and validity of the AIMS assessments and should not be used for state accountability purposes.

8.1.1 AIMS CRT State Test Results

The AIMS CRT test results for mathematics and reading are each on a vertical scale for Grades 3-8. The AIMS CRT Grades 3-8 vertical scales each have a lowest obtainable scale score (LOSS) and a highest obtainable scale score (HOSS) that varies by subject. The AIMS test results for science for Grades 4, 8, and high school and writing for Grades 5, 6, 7, and high school are not on a vertical scale and therefore the scale scores across grades can not be compared. For each grade, the lowest obtainable scale score (LOSS) on the science tests is 200, and the highest obtainable scale score (HOSS) is 800.The LOSS on the writing tests is 300 and the HOSS is 700. The AIMS high school assessments for mathematics, reading, science, and writing are each on a separate scale and each has different LOSS and HOSS. The LOSS and HOSS values for each grade/subject can be found in Table 8.1.1.1.

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Table 8.1.1.1
Spring 2012 AIMS LOSS and HOSS Table

Content	Grade	Loss	Hoss
Reading	3	200	640
	4	220	660
	5	240	675
	6	250	690
	7	260	720
	8	270	800
	HS	500	900
Mathematics	3	100	540
	4	120	560
	5	140	580
	6	160	600
	7	180	620
	8	200	640
	HS	300	700
Writing	5	300	700
	6	300	700
	7	300	700
	HS	300	700
Science	4	200	800
	8	200	800
	HS	200	800

Test results for each grade level and content area CRT test follow in Tables 8.1.1.2 through 8.1.1.9. For each grade, scale score means and standard deviations as well as the percentages of students in each performance level are presented for the state as a whole and disaggregated into various demographic groups.

In addition to the descriptive statistics presented in Tables 8.1.1.2 through 8.1.1.9, scale score frequency distributions are also presented in Tables 8.1.1.10 through 8.1.1.40. Each grade and content area is presented in a separate table. These tables show the scale score, frequency (Freq), cumulative frequency (Cum Freq), percentage (%), and cumulative percentage (Cum %).

Results for AIMS high school assessments are reported by graduating cohort. Cohort 15 is defined as the group of students that expect to graduate in 2015 and typically includes 9th grade students. The results for Cohort 15 are reported only for science because Grade 9 science scores are used in the state accountability system. Cohort 14 is defined as the group of students that expect to graduate in 2014 and typically includes 10th grade students. Cohort 13 is defined as the group of students that expect to graduate in 2013 and typically includes 11th grade students. Cohort 12 is defined as the group of students that expect to graduate in 2012 and is typically composed of seniors.

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Table 8.1.1.2
Spring 2012 AIMS State Test Results
Mathematics CRT Grades 3-8

		Scale Score		% at Performance Level			
	N	M	SD	FFBS	AS	MS	ES
Grade 3							
Total	82905	373.11	50.34	8	23	42	27
Hispanic	35907	361.00	46.38	11	28	43	18
Non Hispanic	46443	382.67	51.22	6	18	42	34
Ethnic Background							
White	66284	375.61	49.97	7	21	43	29
Black or African American	4654	356.50	46.51	13	30	41	16
Asian	2449	402.15	52.37	3	11	38	48
American Indian or Alaskan Native	6236	352.30	45.48	14	33	39	13
Native Hawaiian or Other Pacific Islander	287	373.25	49.46	7	22	44	27
Multiple Indication	1907	373.24	49.22	7	24	43	26
Special Program Membership							
English Learner Program	5481	329.69	38.40	26	43	27	4
Special Education	8447	338.84	50.72	28	32	28	12
Low SES	205	345.20	43.75	19	33	39	9
Migrant	74	347.41	45.39	16	35	36	12
Grade 4							
Total	81924	387.70	49.65	13	21	39	28
Hispanic	35717	377.17	45.93	16	25	40	19
Non Hispanic	45714	396.11	50.83	10	17	38	34
Ethnic Background							
White	65603	390.09	49.05	12	20	40	29
Black or African American	4707	371.40	46.13	20	25	38	16
Asian	2415	419.17	54.31	5	11	31	53
American Indian or Alaskan Native	6110	365.67	44.94	23	29	35	13
Native Hawaiian or Other Pacific Islander	264	394.57	54.17	12	18	35	35
Multiple Indication	1795	389.80	48.36	11	20	41	28
Special Program Membership							
English Learner Program	6253	344.23	35.72	38	36	23	3
Special Education	9032	350.20	47.57	40	28	23	10
Low SES	259	358.56	41.67	25	37	27	10
Migrant	78	370.06	39.35	15	35	32	18

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

(table continues)

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Table 8.1.1.2 (continued)
Spring 2012 AIMS State Test Results
Mathematics CRT Grades 3-8

		Scale Score		% at Performance Level			
	N	M	SD	FFBS	AS	MS	ES
Grade 5							
Total	82386	398.38	48.34	16	21	40	23
Hispanic	35825	387.56	44.55	20	25	40	15
Non Hispanic	46040	406.95	49.46	12	18	41	29
Ethnic Background							
White	66143	400.48	47.79	14	20	42	24
Black or African American	4647	380.00	45.40	27	26	36	12
Asian	2514	430.31	51.86	6	11	35	47
American Indian or Alaskan Native	6025	379.03	42.75	26	28	36	10
Native Hawaiian or Other Pacific Islander	278	404.37	46.72	13	18	42	27
Multiple Indication	1743	401.26	49.55	15	20	41	24
Special Program Membership							
English Learner Program	4639	350.36	33.12	52	31	15	2
Special Education	9066	357.78	44.14	50	24	19	7
Low SES	243	371.72	42.41	33	26	35	7
Migrant	101	373.36	41.25	30	30	33	8
Grade 6							
Total	81982	414.45	49.11	17	23	34	27
Hispanic	34989	403.28	44.96	21	27	34	18
Non Hispanic	46529	423.00	50.37	13	19	34	34
Ethnic Background							
White	65875	416.67	48.66	15	22	35	28
Black or African American	4850	398.86	45.41	24	29	30	16
Asian	2350	449.11	56.22	7	12	27	54
American Indian or Alaskan Native	6087	393.31	42.08	27	30	30	12
Native Hawaiian or Other Pacific Islander	259	417.12	48.13	16	19	34	31
Multiple Indication	1702	414.87	47.34	16	22	35	26
Special Program Membership							
English Learner Program	2760	364.55	31.41	57	29	12	2
Special Education	8746	369.52	40.88	55	24	14	6
Low SES	337	387.46	39.22	31	31	29	9
Migrant	79	384.61	41.71	38	29	24	9

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

(table continues)

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Table 8.1.1.2 (continued)
Spring 2012 AIMS State Test Results
Mathematics CRT Grades 3-8

		Scale Score		% at Performance Level			
	N	M	SD	FFBS	AS	MS	ES
Grade 7							
Total	81501	430.52	52.98	19	19	33	29
Hispanic	34635	416.99	47.15	24	23	34	19
Non Hispanic	46436	440.85	54.74	15	16	33	37
Ethnic Background							
White	65493	433.04	52.32	17	18	34	31
Black or African American	4645	413.67	48.22	27	24	31	18
Asian	2313	470.45	62.67	8	9	25	58
American Indian or Alaskan Native	6089	405.83	44.88	32	26	29	13
Native Hawaiian or Other Pacific Islander	270	429.00	50.24	18	17	39	26
Multiple Indication	1746	431.94	52.08	18	18	34	30
Special Program Membership							
English Learner Program	1345	366.73	33.10	74	16	8	2
Special Education	8069	378.18	42.13	62	19	14	5
Low SES	254	399.27	41.45	36	31	24	9
Migrant	81	393.78	38.15	42	30	23	5
Grade 8							
Total	79958	438.48	50.28	30	13	33	24
Hispanic	33607	426.58	45.47	38	15	31	16
Non Hispanic	45933	447.37	51.81	24	12	34	30
Ethnic Background							
White	64142	440.63	49.49	28	13	34	25
Black or African American	4909	421.86	46.26	43	14	29	14
Asian	2270	478.48	62.40	14	6	26	53
American Indian or Alaskan Native	5744	418.52	43.56	46	15	27	11
Native Hawaiian or Other Pacific Islander	258	436.49	48.30	29	17	32	22
Multiple Indication	1715	436.96	49.21	30	14	33	22
Special Program Membership							
English Learner Program	997	381.75	33.91	82	8	8	2
Special Education	7834	388.67	37.04	76	10	11	3
Low SES	176	411.97	38.74	52	15	26	7
Migrant	90	415.81	47.88	48	17	21	14

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

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Table 8.1.1.3
Spring 2012 AIMS State Test Results
Mathematics CRT High School

		Scale Score		% at Performance Level			
Group	N	M	SD	FFBS	AS	MS	ES
Cohort 14							
Total	75052	501.84	45.80	27	13	40	21
Hispanic	30107	488.56	39.60	35	16	38	11
Non Hispanic	44609	511.00	47.45	21	11	41	27
Ethnic Background							
White	61136	503.71	45.16	25	12	41	22
Black or African American	4433	486.63	40.43	37	15	37	11
Asian	2335	536.02	57.90	14	6	32	48
American Indian or Alaskan Native	4391	481.06	37.07	43	16	32	8
Native Hawaiian or Other Pacific Islander	211	494.20	44.68	30	17	36	17
Multiple Indication	1471	497.84	43.86	29	13	41	18
Special Program Membership							
English Learner Program	1138	453.25	29.80	78	10	10	2
Special Education	6087	455.37	32.20	75	10	12	2
Low SES	301	473.47	34.65	54	15	26	5
Migrant	173	477.94	36.69	45	17	33	6
Cohort 13							
Total	18972	467.42	26.95	56	23	20	1
Hispanic	9801	465.38	24.66	59	23	17	1
Non Hispanic	8979	469.44	28.74	53	22	23	2
Ethnic Background							
White	14028	468.12	26.85	55	23	21	1
Black or African American	1518	464.19	25.84	60	23	16	1
Asian	327	476.71	37.93	49	20	24	7
American Indian or Alaskan Native	1914	462.84	24.10	62	22	15	0
Native Hawaiian or Other Pacific Islander	65	474.28	33.75	52	20	23	5
Multiple Indication	409	466.56	24.69	56	23	20	0
Special Program Membership							
English Learner Program	688	455.03	27.25	77	12	9	1
Special Education	3135	449.65	22.36	82	12	6	0
Low SES	132	469.42	21.45	49	33	17	0
Migrant	64	459.11	22.10	69	23	8	0

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes. High school results are not on the same scale as Grade 3-8 results.

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Table 8.1.1.3 (continued)
Spring 2012 AIMS State Test Results
Mathematics CRT High School

		Scale Score		% at Performance Level			
Group	N	M	SD	FFBS	AS	MS	ES
Cohort 11 & 12							
Total	12627	463.68	24.58	62	22	16	1
Hispanic	6911	463.34	23.48	62	23	14	0
Non Hispanic	5533	464.24	25.81	61	21	17	1
Ethnic Background							
White	8628	464.66	24.41	60	23	17	0
Black or African American	1150	459.31	25.11	68	19	13	1
Asian	207	466.72	31.99	65	16	15	4
American Indian or Alaskan Native	1507	461.67	23.60	64	22	13	0
Native Hawaiian or Other Pacific Islander	49	457.47	21.87	69	22	8	0
Multiple Indication	326	463.67	22.26	62	22	16	0
Special Program Membership							
English Learner Program	545	455.14	23.87	78	11	10	0
Special Education	2251	448.11	21.30	85	11	4	0
Low SES	47	469.26	18.44	51	32	17	0
Migrant	26	464.54	15.80	65	23	12	0

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Table 8.1.1.4
Spring 2012 AIMS State Test Results
Reading CRT Grades 3-8

		Scale Score		% at Performance Level			
Group	N	M	SD	FFBS	AS	MS	ES
Grade 3							
Total	82909	463.08	48.08	4	21	61	15
Hispanic	35910	449.64	44.50	5	28	59	7
Non Hispanic	46443	473.65	48.11	3	15	62	20
Ethnic Background							
White	66287	465.49	47.77	4	19	62	15
Black or African American	4653	451.77	45.67	6	27	59	9
Asian	2449	486.23	49.32	2	10	59	28
American Indian or Alaskan Native	6238	440.72	43.01	7	34	54	5
Native Hawaiian or Other Pacific Islander	287	466.10	44.56	2	17	69	12
Multiple Indication	1906	466.09	46.59	3	19	62	16
Special Program Membership							
English Learner Program	5482	411.28	34.56	16	56	27	1
Special Education	8447	423.36	49.27	19	41	35	5
Low SES	205	429.80	43.83	12	42	41	5
Migrant	74	431.23	44.42	16	32	51	0
Grade 4							
Total	81933	482.39	45.25	4	20	63	12
Hispanic	35719	470.04	41.40	6	27	62	6
Non Hispanic	45721	492.16	45.73	3	15	65	17
Ethnic Background							
White	65613	484.74	44.98	4	19	64	13
Black or African American	4706	469.44	42.10	6	27	61	6
Asian	2415	504.50	45.78	2	10	63	24
American Indian or Alaskan Native	6112	460.57	40.50	8	34	55	4
Native Hawaiian or Other Pacific Islander	264	482.77	46.96	6	17	64	13
Multiple Indication	1794	486.94	44.09	3	17	66	14
Special Program Membership							
English Learner Program	6254	434.51	30.11	16	55	29	0
Special Education	9031	444.72	45.36	19	41	36	4
Low SES	259	450.51	40.33	14	39	46	2
Migrant	78	453.36	37.86	15	29	55	0

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

(table continues)

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Table 8.1.1.4 (continued)
Spring 2012 AIMS State Test Results
Reading CRT Grades 3-8

		Scale Score		% at Performance Level			
Group	N	M	SD	FFBS	AS	MS	ES
Grade 5							
Total	82383	503.12	44.35	5	17	66	12
Hispanic	35827	491.80	41.96	7	22	65	6
Non Hispanic	46035	512.00	44.15	4	13	67	16
Ethnic Background							
White	66150	505.40	43.94	5	15	67	13
Black or African American	4644	490.12	43.25	8	23	63	6
Asian	2514	521.61	44.47	3	9	65	23
American Indian or Alaskan Native	6019	482.40	40.51	8	28	59	4
Native Hawaiian or Other Pacific Islander	278	506.47	43.97	4	17	66	13
Multiple Indication	1743	507.77	44.03	4	14	68	13
Special Program Membership							
English Learner Program	4638	447.74	30.09	23	53	24	0
Special Education	9062	460.11	44.19	25	37	36	3
Low SES	243	474.22	41.76	16	28	54	2
Migrant	101	474.34	40.86	10	35	53	2
Grade 6							
Total	82027	515.73	44.84	4	16	69	11
Hispanic	35012	503.15	42.05	5	22	68	5
Non Hispanic	46549	525.28	44.50	3	12	70	16
Ethnic Background							
White	65899	518.04	44.42	3	15	70	12
Black or African American	4866	503.69	43.86	5	22	66	6
Asian	2350	538.03	46.34	2	8	64	26
American Indian or Alaskan Native	6088	494.52	40.18	6	28	64	3
Native Hawaiian or Other Pacific Islander	259	516.47	43.34	5	12	75	8
Multiple Indication	1703	519.17	42.07	2	13	73	11
Special Program Membership							
English Learner Program	2760	453.73	29.40	23	56	21	0
Special Education	8744	469.52	42.30	18	43	36	2
Low SES	337	482.56	38.37	9	36	53	1
Migrant	79	476.73	42.96	19	28	51	3

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

(table continues)

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Table 8.1.1.4 (continued)
Spring 2012 AIMS State Test Results
Reading CRT Grades 3-8

		Scale Score		% at Performance Level			
	N	M	SD	FFBS	AS	MS	ES
Grade 7							
Total	81527	536.03	45.74	2	14	72	12
Hispanic	34649	524.24	42.63	2	19	72	6
Non Hispanic	46447	544.98	45.94	1	11	72	16
Ethnic Background							
White	65512	538.24	45.24	2	13	73	13
Black or African American	4646	525.48	44.36	3	19	71	7
Asian	2313	559.73	49.09	2	7	64	28
American Indian or Alaskan Native	6092	514.37	41.67	3	26	67	4
Native Hawaiian or Other Pacific Islander	270	534.15	41.95	2	13	77	8
Multiple Indication	1746	538.84	44.17	1	12	73	13
Special Program Membership							
English Learner Program	1345	466.42	28.79	18	64	18	0
Special Education	8075	487.20	40.44	11	47	40	2
Low SES	254	504.55	42.20	6	34	58	2
Migrant	81	503.14	35.98	2	36	60	1
Grade 8							
Total	79961	526.46	50.91	9	19	66	6
Hispanic	33605	513.95	47.85	12	25	61	3
Non Hispanic	45937	535.76	51.09	7	15	70	8
Ethnic Background							
White	64142	529.20	50.20	8	18	68	6
Black or African American	4909	514.22	49.92	12	24	60	3
Asian	2271	548.83	54.81	7	10	69	14
American Indian or Alaskan Native	5746	502.90	47.73	16	30	52	2
Native Hawaiian or Other Pacific Islander	258	522.61	51.14	12	16	67	4
Multiple Indication	1716	525.02	49.64	10	19	67	4
Special Program Membership							
English Learner Program	997	444.85	37.47	66	25	9	0
Special Education	7834	469.77	46.12	41	34	25	1
Low SES	176	494.27	44.94	19	35	46	1
Migrant	90	501.99	54	24	22	50	3

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

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Table 8.1.1.5
Spring 2012 AIMS State Test Results
Reading CRT High School

		Scale Score		% at Performance Level			
	N	M	SD	FFBS	AS	MS	ES
Cohort 14							
Total	77283	714.33	45.91	3	17	69	11
Hispanic	31025	700.98	41.99	4	22	68	5
Non Hispanic	45760	723.59	46.16	3	13	69	16
Ethnic Background							
White	62486	717.03	45.28	3	15	70	12
Black or African American	4608	700.86	44.22	6	23	66	6
Asian	2348	732.24	51.36	3	12	62	23
American Indian or Alaskan Native	4596	690.26	41.19	6	30	61	3
Native Hawaiian or Other Pacific Islander	227	703.83	43.44	5	17	71	6
Multiple Indication	1455	714.84	44.16	3	16	71	11
Special Program Membership							
English Learner Program	1130	644.04	27.92	29	59	12	0
Special Education	6245	664.50	39.93	18	47	34	1
Low SES	298	695.86	39.61	4	26	67	3
Migrant							
Cohort 13							
Total	11229	675.16	44.05	11	46	38	4
Hispanic	5875	668.62	37.26	12	50	36	2
Non Hispanic	5117	681.72	49.12	11	42	40	7
Ethnic Background							
White	7708	675.96	44.84	11	46	38	5
Black or African American	900	667.50	37.40	13	49	37	1
Asian	383	690.17	52.07	9	39	44	8
American Indian or Alaskan Native	1193	663.79	33.19	13	54	32	1
Native Hawaiian or Other Pacific Islander	54	682.81	53.29	13	35	41	11
Multiple Indication	198	674.29	40.57	12	40	45	3
Special Program Membership							
English Learner Program	701	645.16	25.11	23	66	11	0
Special Education	2337	648.23	27.82	24	58	18	0
Low SES	26	667.58	22.33	8	38	54	0
Migrant							

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes. High school results are not on the same scale as Grades 3-8 results.

(table continues)

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Table 8.1.1.5 (continued)
Spring 2012 AIMS State Test Results
Reading CRT High School

		Scale Score		% at Performance Level			
	N	M	SD	FFBS	AS	MS	ES
Cohort 11 & 12							
Total	6181	661.98	35.87	15	55	29	1
Hispanic	3471	660.87	32.33	14	57	28	1
Non Hispanic	2579	663.06	39.57	17	52	28	2
Ethnic Background							
White	3974	662.86	36.61	15	55	29	2
Black or African American	607	656.19	33.56	19	56	25	0
Asian	181	660.86	35.99	19	53	28	1
American Indian or Alaskan Native	804	658.19	31.29	16	58	26	0
Native Hawaiian or Other Pacific Islander	34	666.00	40.16	15	50	32	3
Multiple Indication	116	664.03	40.62	15	53	30	2
Special Program Membership							
English Learner Program	600	650.93	27.43	20	62	18	0
Special Education	1522	644.33	26.11	28	61	11	0
Low SES	8	670.63	29.81	13	38	50	0
Migrant							

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes. High school results are not on the same scale as Grades 3-8 results.

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Table 8.1.1.6
Spring 2012 AIMS State Test Results
Writing CRT Grades 5-7

		Scale Score		% at Performance Level			
Group	N	M	SD	FFBS	AS	MS	ES
Grade 5							
Total	81235	503.13	51.84	7	36	53	3
Hispanic	35254	489.69	44.23	10	44	44	1
Non Hispanic	45470	513.67	54.85	6	30	60	5
Ethnic Background							
White	65350	504.80	51.67	7	35	55	3
Black or African American	4533	490.28	48.22	12	43	43	2
Asian	2466	534.70	62.24	4	19	66	11
American Indian or Alaskan Native	5898	483.30	41.90	12	49	38	1
Native Hawaiian or Other Pacific Islander	273	509.60	53.50	7	29	60	4
Multiple Indication	1722	508.77	51.49	6	32	58	4
Special Program Membership							
English Learner Program	4426	450.25	31.72	33	59	8	0
Special Education	8819	458.62	45.58	33	47	19	1
Low SES	235	470.12	41.44	20	51	28	1
Migrant	97	467.65	42.37	19	58	23	1
Grade 6							
Total	81377	502.05	50.90	12	31	49	8
Hispanic	34723	488.61	43.58	16	38	43	3
Non Hispanic	46199	512.25	53.54	9	25	54	11
Ethnic Background							
White	65463	503.93	50.59	11	30	51	8
Black or African American	4803	492.35	49.28	17	34	44	5
Asian	2322	533.64	60.81	6	15	58	21
American Indian or Alaskan Native	5999	479.79	41.13	21	42	35	2
Native Hawaiian or Other Pacific Islander	257	511.23	50.69	9	27	53	12
Multiple Indication	1692	504.86	47.90	10	29	54	7
Special Program Membership							
English Learner Program	2644	442.46	33.79	57	36	7	0
Special Education	8559	453.89	44.87	48	35	16	1
Low SES	335	461.40	36.97	35	44	21	0
Migrant	76	464.67	42.98	32	46	21	1

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

(table continues)

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Table 8.1.1.6 (continued)
Spring 2012 AIMS State Test Results
Writing CRT Grades 5-7

		Scale Score		% at Performance Level			
Group	N	M	SD	FFBS	AS	MS	ES
Grade 7							
Total	80937	500.64	48.51	12	36	47	5
Hispanic	34385	489.48	42.32	15	43	40	2
Non Hispanic	46130	509.13	51.06	9	32	52	7
Ethnic Background							
White	65114	502.28	48.00	11	35	48	5
Black or African American	4598	490.90	45.44	15	41	41	3
Asian	2284	533.00	62.48	5	21	56	18
American Indian or Alaskan Native	6018	480.55	39.34	20	47	32	1
Native Hawaiian or Other Pacific Islander	265	502.43	48.33	9	37	49	5
Multiple Indication	1733	504.35	51.16	10	37	47	7
Special Program Membership							
English Learner Program	1259	437.55	32.44	67	29	4	0
Special Education	7878	452.43	36.77	50	39	11	0
Low SES	253	471.35	40.70	30	46	23	1
Migrant	80	468.83	42.35	31	48	20	1

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

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Table 8.1.1.7
Spring 2012 AIMS State Test Results
Writing CRT High School

		Scale Score		% at Performance Level			
Group	N	M	SD	FFBS	AS	MS	ES
Prompt A, Cohort 14							
Total	74849	501.69	46.70	6	24	66	4
Hispanic	30011	488.88	42.26	8	32	58	2
Non Hispanic	44379	510.51	47.52	5	19	72	5
Ethnic Background							
White	60762	503.72	45.90	5	23	68	4
Black or African American	4398	491.15	44.56	9	29	60	2
Asian	2244	525.11	58.37	6	13	69	13
American Indian or Alaskan Native	4400	478.87	42.13	12	38	49	1
Native Hawaiian or Other Pacific Islander	220	492.45	42.58	9	28	62	1
Multiple Indication	1398	503.78	45.08	5	23	68	4
Special Program Membership							
English Learner Program	993	424.06	32.48	59	37	4	0
Special Education	5916	449.14	39.49	33	45	21	0
Low SES	285	480.57	44.34	13	36	50	1
Migrant				13	36	50	1
Prompt A, Cohort 13							
Total	16003	476.39	49.40	16	44	37	3
Hispanic	7965	466.42	40.62	18	50	31	1
Non Hispanic	7700	485.43	54.72	14	39	43	5
Ethnic Background							
White	11459	478.43	50.06	15	43	39	3
Black or African American	1142	464.76	42.74	20	46	33	1
Asian	553	495.56	61.83	15	30	47	8
American Indian or Alaskan Native	1531	459.52	34.35	19	55	25	0
Native Hawaiian or Other Pacific Islander	65	482.97	48.42	12	42	43	3
Multiple Indication	288	475.22	46.33	13	47	38	2
Special Program Membership							
English Learner Program	752	427.53	29.54	55	41	3	0
Special Education	2760	441.99	31.58	36	54	11	0
Low SES	49	466.90	27.37	8	61	31	0
Migrant							

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes. High school results are not on the same scale as Grades 3-8 results.

(table continues)

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Table 8.1.1.7 (continued)
Spring 2012 AIMS State Test Results
Writing CRT High School

		Scale Score		% at Performance Level			
Group	N	M	SD	FFBS	AS	MS	ES
Prompt A, Cohort 11 & 12							
Total	6626	453.83	36.99	26	53	21	0
Hispanic	3725	451.74	33.60	26	56	18	0
Non Hispanic	2768	456.13	40.73	27	48	24	1
Ethnic Background							
White	4378	454.53	36.99	25	53	21	0
Black or African American	568	447.86	37.21	33	48	19	0
Asian	198	450.62	45.10	36	44	19	1
American Indian or Alaskan Native	796	450.57	32.68	27	56	17	0
Native Hawaiian or Other Pacific Islander	31	448.13	38.78	35	45	19	0
Multiple Indication	124	460.09	34.31	19	56	24	1
Special Program Membership							
English Learner Program	610	434.93	30.57	46	47	7	0
Special Education	1546	435.28	30.22	46	48	7	0
Low SES	9	473.22	21.55	0	44	56	0
Migrant							
Prompt T, Cohort 14							
Total	1610	483.62	45.06	12	35	52	2
Hispanic	602	474.12	41.36	14	41	44	1
Non Hispanic	965	489.69	46.13	10	32	56	2
Ethnic Background							
White	1177	487.42	45.36	11	32	55	2
Black or African American	109	481.8	36.47	6	42	51	0
Asian	22	507.36	40.81	0	27	68	5
American Indian or Alaskan Native	156	462.5	39.47	22	48	29	0
Native Hawaiian or Other Pacific Islander	5	472.8	25.95	20	40	40	0
Multiple Indication	27	491.78	47.65	11	26	63	0
Special Program Membership							
English Learner Program	14	419.07	32.5	57	43	0	0
Special Education	155	447.13	37.94	35	43	21	0
Low SES	5	476	14.21	0	40	60	0
Migrant							

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes. High school results are not on the same scale as Grades 3-8 results.

(table continues)

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Table 8.1.1.7 (continued)
Spring 2012 AIMS State Test Results
Writing CRT High School

		Scale Score		% at Performance Level			
Group	N	M	SD	FFBS	AS	MS	ES
Prompt T, Cohort 13							
Total	1072	467.1	41.8	17	49	32	1
Hispanic	480	462.49	34.91	17	53	30	0
Non Hispanic	563	470.19	46.06	18	47	33	2
Ethnic Background							
White	728	469.09	43.29	17	49	33	2
Black or African American	93	463.67	36.3	18	49	32	0
Asian	21	488.19	61.72	10	38	43	10
American Indian or Alaskan Native	117	453.7	28.34	22	61	17	0
Native Hawaiian or Other Pacific Islander	4	465.25	26.26	0	50	50	0
Multiple Indication	23	463.87	34.56	13	43	43	0
Special Program Membership							
English Learner Program	12	420.17	39.58	50	50	0	0
Special Education	172	438.09	36.11	43	44	13	0
Low SES	1	515		0	0	100	0
Migrant							
Prompt T, Cohort 11 & 12							
Total	410	453.47	38.12	31	46	23	0
Hispanic	199	453.54	35.87	28	52	20	1
Non Hispanic	192	452.91	40.17	34	40	26	0
Ethnic Background							
White	239	455.72	39.03	30	45	25	0
Black or African American	48	442.77	38.45	42	44	15	0
Asian	10	449.4	39.52	30	40	30	0
American Indian or Alaskan Native	54	445.57	35.62	37	46	17	0
Native Hawaiian or Other Pacific Islander	2	470.5	23.33	0	50	50	0
Multiple Indication	12	446.67	36.33	50	25	25	0
Special Program Membership							
English Learner Program	11	427.55	18.15	64	36	0	0
Special Education	106	432.74	31.9	56	36	8	0
Low SES							
Migrant							

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes. High school results are not on the same scale as Grades 3-8 results.

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Table 8.1.1.8
Spring 2012 AIMS State Test Results
Science CRT Grades 4 and 8

		Scale Score		% at Performance Level			
	N	M	SD	FFBS	AS	MS	ES
Grade 4							
Total	81892	518.86	57.63	16	21	31	32
Hispanic	35692	499.47	49.51	23	27	32	17
Non Hispanic	45710	534.13	58.96	11	16	31	43
Ethnic Background							
White	65578	522.26	57.61	15	20	32	34
Black or African American	4703	501.05	50.87	23	27	32	19
Asian	2414	545.27	61.68	9	13	27	51
American Indian or Alaskan Native	6114	488.72	46.43	30	31	28	12
Native Hawaiian or Other Pacific Islander	264	522.64	58.54	15	21	32	32
Multiple Indication	1794	525.38	57.39	12	20	33	35
Special Program Membership							
English Learner Program	6257	458.51	34.51	57	31	11	1
Special Education	9021	483.49	55.79	40	25	22	14
Low SES	258	474.90	44.44	40	30	22	8
Migrant	78	478.40	41.13	35	37	21	8
Grade 8							
Total	80019	519.26	47.92	18	15	28	40
Hispanic	33626	503.90	43.62	25	19	30	25
Non Hispanic	45975	530.65	47.75	13	11	26	50
Ethnic Background							
White	64192	522.20	47.31	16	14	28	42
Black or African American	4914	504.77	45.18	26	18	29	27
Asian	2272	544.44	52.59	11	7	20	63
American Indian or Alaskan Native	5750	494.43	42.42	32	22	28	18
Native Hawaiian or Other Pacific Islander	258	515.64	45.56	20	13	30	37
Multiple Indication	1717	518.47	46.03	17	14	31	38
Special Program Membership							
English Learner Program	995	446.82	33.44	80	12	6	2
Special Education	7845	473.32	44.22	55	17	17	10
Low SES	176	486.22	36.76	39	21	29	11
Migrant	90	492.72	43.28	38	13	27	22

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes. High school results are not on the same scale as Grades 3-8 results.

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Table 8.1.1.9
Spring 2012 AIMS State Test Results
Science CRT High School

		Scale Score		% at Performance Level			
	N	M	SD	FFBS	AS	MS	ES
Cohort 14							
Total	53344	487.04	62.63	41	17	21	21
Hispanic	23185	470.84	56.75	51	18	18	12
Non Hispanic	29743	500.07	63.90	33	16	23	28
Ethnic Background							
White	42434	490.67	62.53	38	17	22	23
Black or African American	3565	471.69	58.27	51	17	19	14
Asian	1337	509.97	75.54	31	13	21	35
American Indian or Alaskan Native	3715	462.26	53.37	58	19	15	9
Native Hawaiian or Other Pacific Islander	160	477.11	61.87	45	22	19	14
Multiple Indication	1032	487.97	60.22	40	18	22	21
Special Program Membership							
English Learner Program	960	406.34	34.18	95	3	2	1
Special Education	4770	433.19	51.58	79	9	7	5
Low SES	275	464.95	53.79	56	18	17	9
Migrant	166	448.30	55.34	64	18	14	4
Cohort 15							
Total	21142	526.35	65.42	20	14	23	43
Hispanic	6096	502.59	58.59	30	19	25	27
Non Hispanic	14427	536.73	65.55	15	12	23	50
Ethnic Background							
White	16756	528.08	64.45	18	14	24	44
Black or African American	809	504.76	62.84	29	18	24	29
Asian	985	565.58	71.61	7	8	17	68
American Indian or Alaskan Native	508	484.58	60.73	45	15	20	20
Native Hawaiian or Other Pacific Islander	77	526.38	54.31	18	16	25	42
Multiple Indication	381	530.12	58.62	16	14	25	45
Special Program Membership							
English Learner Program	39	409.82	36.19	95	3	0	3
Special Education	640	449.88	58.28	72	10	9	8
Low SES	2	478.5	95.46	50	0	0	50
Migrant							

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes. High school results are not on the same scale as Grades 3-8 results.

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Table 8.1.1.10
Spring 2012 AIMS Frequency Distribution
Mathematics CRT Grade 3

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	100	0	0.00	0	0.00	34	329	1440	1.74	17298	20.86
1	132	0	0.00	0	0.00	35	332	1425	1.72	18723	22.58
2	163	0	0.00	0	0.00	36	335	1616	1.95	20339	24.53
3	181	0	0.00	0	0.00	37	338	1640	1.98	21979	26.51
4	195	0	0.00	0	0.00	38	342	1659	2.00	23638	28.51
5	205	1	0.00	1	0.00	39	345	1791	2.16	25429	30.67
6	214	3	0.00	4	0.00	**40**	**348**	**1924**	**2.32**	**27353**	**32.99**
7	222	1	0.00	5	0.01	41	351	1921	2.32	29274	35.31
8	229	3	0.00	8	0.01	42	354	1956	2.36	31230	37.67
9	235	13	0.02	21	0.03	43	358	2021	2.44	33251	40.11
10	241	27	0.03	48	0.06	44	361	2106	2.54	35357	42.65
11	247	50	0.06	98	0.12	45	365	2222	2.68	37579	45.33
12	252	63	0.08	161	0.19	46	368	2259	2.72	39838	48.05
13	256	125	0.15	286	0.34	47	372	2331	2.81	42169	50.86
14	261	185	0.22	471	0.57	48	375	2436	2.94	44605	53.80
15	265	248	0.30	719	0.87	49	379	2522	3.04	47127	56.84
16	269	342	0.41	1061	1.28	50	383	2632	3.17	49759	60.02
17	273	348	0.42	1409	1.70	51	387	2545	3.07	52304	63.09
18	277	457	0.55	1866	2.25	52	392	2704	3.26	55008	66.35
19	281	521	0.63	2387	2.88	53	396	2742	3.31	57750	69.66
20	284	616	0.74	3003	3.62	54	401	2715	3.27	60465	72.93
21	288	624	0.75	3627	4.37	**55**	**406**	**2759**	**3.33**	**63224**	**76.26**
22	291	715	0.86	4342	5.24	56	411	2720	3.28	65944	79.54
23	294	783	0.94	5125	6.18	57	417	2652	3.20	68596	82.74
24	298	810	0.98	5935	7.16	58	423	2601	3.14	71197	85.88
25	301	811	0.98	6746	8.14	59	430	2440	2.94	73637	88.82
26	**304**	**929**	**1.12**	**7675**	**9.26**	60	438	2288	2.76	75925	91.58
27	307	932	1.12	8607	10.38	61	447	2106	2.54	78031	94.12
28	311	1011	1.22	9618	11.60	62	458	1719	2.07	79750	96.19
29	314	1095	1.32	10713	12.92	63	471	1362	1.64	81112	97.84
30	317	1209	1.46	11922	14.38	64	490	1006	1.21	82118	99.05
31	320	1215	1.47	13137	15.85	65	521	589	0.71	82707	99.76
32	323	1362	1.64	14499	17.49	66	540	198	0.24	82905	100.00
33	326	1359	1.64	15858	19.13						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.11
Spring 2012 AIMS Frequency Distribution
Mathematics CRT Grade 4

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	120	0	0.00	0	0.00	35	349	1438	1.76	19485	23.78
1	153	1	0.00	1	0.00	36	352	1461	1.78	20946	25.57
2	183	0	0.00	1	0.00	37	355	1485	1.81	22431	27.38
3	202	0	0.00	1	0.00	38	358	1571	1.92	24002	29.30
4	215	0	0.00	1	0.00	39	361	1733	2.12	25735	31.41
5	226	0	0.00	1	0.00	40	364	1804	2.20	27539	33.62
6	235	1	0.00	2	0.00	**41**	**368**	**1845**	**2.25**	**29384**	**35.87**
7	242	0	0.00	2	0.00	42	371	1978	2.41	31362	38.28
8	249	6	0.01	8	0.01	43	374	2047	2.50	33409	40.78
9	255	14	0.02	22	0.03	44	377	2082	2.54	35491	43.32
10	261	21	0.03	43	0.05	45	380	2173	2.65	37664	45.97
11	266	46	0.06	89	0.11	46	384	2247	2.74	39911	48.72
12	271	85	0.10	174	0.21	47	387	2322	2.83	42233	51.55
13	276	143	0.17	317	0.39	48	391	2286	2.79	44519	54.34
14	280	178	0.22	495	0.60	49	394	2459	3.00	46978	57.34
15	284	283	0.35	778	0.95	50	398	2415	2.95	49393	60.29
16	288	351	0.43	1129	1.38	51	402	2506	3.06	51899	63.35
17	292	436	0.53	1565	1.91	52	406	2417	2.95	54316	66.30
18	296	521	0.64	2086	2.55	53	410	2615	3.19	56931	69.49
19	299	599	0.73	2685	3.28	54	414	2445	2.98	59376	72.48
20	303	714	0.87	3399	4.15	**55**	**418**	**2452**	**2.99**	**61828**	**75.47**
21	306	782	0.95	4181	5.10	56	423	2480	3.03	64308	78.50
22	310	832	1.02	5013	6.12	57	428	2340	2.86	66648	81.35
23	313	894	1.09	5907	7.21	58	433	2283	2.79	68931	84.14
24	316	883	1.08	6790	8.29	59	439	2222	2.71	71153	86.85
25	319	895	1.09	7685	9.38	60	445	2059	2.51	73212	89.37
26	322	996	1.22	8681	10.60	61	452	1945	2.37	75157	91.74
27	326	1039	1.27	9720	11.86	62	460	1689	2.06	76846	93.80
28	329	988	1.21	10708	13.07	63	469	1478	1.80	78324	95.61
29	**332**	**1056**	**1.29**	**11764**	**14.36**	64	480	1246	1.52	79570	97.13
30	335	1094	1.34	12858	15.70	65	493	1006	1.23	80576	98.35
31	338	1136	1.39	13994	17.08	66	512	722	0.88	81298	99.24
32	341	1270	1.55	15264	18.63	67	543	437	0.53	81735	99.77
33	344	1361	1.66	16625	20.29	68	560	189	0.23	81924	100.00
34	346	1422	1.74	18047	22.03						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.12
Spring 2012 AIMS Frequency Distribution
Mathematics CRT Grade 5

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	140	0	0.00	0	0.00	34	364	1607	1.95	21654	26.28
1	167	0	0.00	0	0.00	35	367	1691	2.05	23345	28.34
2	198	0	0.00	0	0.00	36	370	1718	2.09	25063	30.42
3	217	0	0.00	0	0.00	37	373	1737	2.11	26800	32.53
4	230	0	0.00	0	0.00	38	376	1727	2.10	28527	34.63
5	241	1	0.00	1	0.00	39	379	1852	2.25	30379	36.87
6	250	1	0.00	2	0.00	**40**	**382**	**1905**	**2.31**	**32284**	**39.19**
7	258	3	0.00	5	0.01	41	385	2006	2.43	34290	41.62
8	265	6	0.01	11	0.01	42	388	2016	2.45	36306	44.07
9	272	6	0.01	17	0.02	43	391	2059	2.50	38365	46.57
10	277	26	0.03	43	0.05	44	394	2052	2.49	40417	49.06
11	283	41	0.05	84	0.10	45	398	2220	2.69	42637	51.75
12	288	85	0.10	169	0.21	46	401	2253	2.73	44890	54.49
13	292	145	0.18	314	0.38	47	405	2308	2.80	47198	57.29
14	297	217	0.26	531	0.64	48	408	2384	2.89	49582	60.18
15	301	333	0.40	864	1.05	49	412	2343	2.84	51925	63.03
16	305	408	0.50	1272	1.54	50	416	2355	2.86	54280	65.88
17	309	495	0.60	1767	2.14	51	419	2395	2.91	56675	68.79
18	313	671	0.81	2438	2.96	52	423	2330	2.83	59005	71.62
19	317	804	0.98	3242	3.94	53	428	2341	2.84	61346	74.46
20	320	824	1.00	4066	4.94	54	432	2379	2.89	63725	77.35
21	324	926	1.12	4992	6.06	**55**	**437**	**2339**	**2.84**	**66064**	**80.19**
22	327	991	1.20	5983	7.26	56	442	2276	2.76	68340	82.95
23	330	1040	1.26	7023	8.52	57	447	2175	2.64	70515	85.59
24	333	1160	1.41	8183	9.93	58	453	2187	2.65	72702	88.25
25	337	1135	1.38	9318	11.31	59	459	1946	2.36	74648	90.61
26	340	1198	1.45	10516	12.76	60	466	1835	2.23	76483	92.83
27	343	1273	1.55	11789	14.31	61	474	1576	1.91	78059	94.75
28	346	1271	1.54	13060	15.85	62	483	1388	1.68	79447	96.43
29	**349**	**1251**	**1.52**	**14311**	**17.37**	63	494	1144	1.39	80591	97.82
30	352	1376	1.67	15687	19.04	64	507	831	1.01	81422	98.83
31	355	1394	1.69	17081	20.73	65	526	566	0.69	81988	99.52
32	358	1480	1.80	18561	22.53	66	556	318	0.39	82306	99.90
33	361	1486	1.80	20047	24.33	67	580	80	0.10	82386	100.00

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.13
Spring 2012 AIMS Frequency Distribution
Mathematics CRT Grade 6

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	160	0	0.00	0	0.00	35	385	1611	1.97	25498	31.10
1	194	0	0.00	0	0.00	36	388	1640	2.00	27138	33.10
2	224	0	0.00	0	0.00	37	391	1658	2.02	28796	35.12
3	242	0	0.00	0	0.00	38	394	1684	2.05	30480	37.18
4	256	0	0.00	0	0.00	39	397	1721	2.10	32201	39.28
5	266	0	0.00	0	0.00	**40**	**400**	**1738**	**2.12**	**33939**	**41.40**
6	275	2	0.00	2	0.00	41	402	1816	2.22	35755	43.61
7	282	3	0.00	5	0.01	42	405	1881	2.29	37636	45.91
8	289	5	0.01	10	0.01	43	408	1896	2.31	39532	48.22
9	295	16	0.02	26	0.03	44	411	1914	2.33	41446	50.55
10	301	32	0.04	58	0.07	45	415	1883	2.30	43329	52.85
11	306	68	0.08	126	0.15	46	418	2008	2.45	45337	55.30
12	310	106	0.13	232	0.28	47	421	2084	2.54	47421	57.84
13	315	218	0.27	450	0.55	48	424	1990	2.43	49411	60.27
14	319	326	0.40	776	0.95	49	428	2052	2.50	51463	62.77
15	323	448	0.55	1224	1.49	50	431	2129	2.60	53592	65.37
16	327	594	0.72	1818	2.22	51	435	2097	2.56	55689	67.93
17	331	661	0.81	2479	3.02	52	438	2121	2.59	57810	70.52
18	334	798	0.97	3277	4.00	53	442	2168	2.64	59978	73.16
19	338	914	1.11	4191	5.11	**54**	**446**	**2020**	**2.46**	**61998**	**75.62**
20	341	977	1.19	5168	6.30	55	451	2171	2.65	64169	78.27
21	344	1071	1.31	6239	7.61	56	455	2052	2.50	66221	80.78
22	348	1142	1.39	7381	9.00	57	460	2083	2.54	68304	83.32
23	351	1209	1.47	8590	10.48	58	465	1961	2.39	70265	85.71
24	354	1223	1.49	9813	11.97	59	470	1980	2.42	72245	88.12
25	357	1237	1.51	11050	13.48	60	477	1939	2.37	74184	90.49
26	360	1215	1.48	12265	14.96	61	483	1682	2.05	75866	92.54
27	363	1328	1.62	13593	16.58	62	491	1490	1.82	77356	94.36
28	**366**	**1356**	**1.65**	**14949**	**18.23**	63	500	1347	1.64	78703	96.00
29	368	1375	1.68	16324	19.91	64	510	1255	1.53	79958	97.53
30	371	1432	1.75	17756	21.66	65	523	950	1.16	80908	98.69
31	374	1500	1.83	19256	23.49	66	541	626	0.76	81534	99.45
32	377	1555	1.90	20811	25.38	67	572	311	0.38	81845	99.83
33	380	1460	1.78	22271	27.17	68	600	137	0.17	81982	100.00
34	383	1616	1.97	23887	29.14						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.14
Spring 2012 AIMS Frequency Distribution
Mathematics CRT Grade 7

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	180	0	0.00	0	0.00	35	392	1451	1.78	20931	25.68
1	195	0	0.00	0	0.00	36	395	1564	1.92	22495	27.60
2	226	0	0.00	0	0.00	37	398	1528	1.87	24023	29.48
3	244	0	0.00	0	0.00	38	401	1570	1.93	25593	31.40
4	257	0	0.00	0	0.00	39	404	1608	1.97	27201	33.38
5	268	0	0.00	0	0.00	40	407	1788	2.19	28989	35.57
6	277	1	0.00	1	0.00	41	410	1747	2.14	30736	37.71
7	285	2	0.00	3	0.00	**42**	**413**	**1857**	**2.28**	**32593**	**39.99**
8	292	10	0.01	13	0.02	43	416	1880	2.31	34473	42.30
9	298	25	0.03	38	0.05	44	420	1932	2.37	36405	44.67
10	303	22	0.03	60	0.07	45	423	2025	2.48	38430	47.15
11	309	53	0.07	113	0.14	46	426	2104	2.58	40534	49.73
12	314	95	0.12	208	0.26	47	429	2026	2.49	42560	52.22
13	318	129	0.16	337	0.41	48	433	2115	2.60	44675	54.82
14	323	200	0.25	537	0.66	49	436	2127	2.61	46802	57.43
15	327	324	0.40	861	1.06	50	440	2194	2.69	48996	60.12
16	331	442	0.54	1303	1.60	51	444	2165	2.66	51161	62.77
17	335	530	0.65	1833	2.25	52	448	2212	2.71	53373	65.49
18	339	627	0.77	2460	3.02	53	452	2247	2.76	55620	68.24
19	342	673	0.83	3133	3.84	54	456	2178	2.67	57798	70.92
20	346	790	0.97	3923	4.81	**55**	**460**	**2150**	**2.64**	**59948**	**73.55**
21	349	837	1.03	4760	5.84	56	465	2245	2.75	62193	76.31
22	353	918	1.13	5678	6.97	57	470	2328	2.86	64521	79.17
23	356	938	1.15	6616	8.12	58	475	2128	2.61	66649	81.78
24	359	932	1.14	7548	9.26	59	481	2172	2.66	68821	84.44
25	362	1011	1.24	8559	10.50	60	487	2184	2.68	71005	87.12
26	365	973	1.19	9532	11.70	61	494	2000	2.45	73005	89.58
27	368	1131	1.39	10663	13.08	62	502	1872	2.30	74877	91.87
28	371	1099	1.35	11762	14.43	63	511	1790	2.20	76667	94.07
29	375	1141	1.40	12903	15.83	64	521	1581	1.94	78248	96.01
30	377	1237	1.52	14140	17.35	65	535	1304	1.60	79552	97.61
31	380	1213	1.49	15353	18.84	66	553	1050	1.29	80602	98.90
32	**383**	**1295**	**1.59**	**16648**	**20.43**	67	584	662	0.81	81264	99.71
33	386	1417	1.74	18065	22.17	68	620	237	0.29	81501	100.00
34	389	1415	1.74	19480	23.90						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.15
Spring 2012 AIMS Frequency Distribution
Mathematics CRT Grade 8

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	200	0	0.00	0	0.00	35	408	1642	2.05	24074	30.11
1	213	1	0.00	1	0.00	**36**	**411**	**1717**	**2.15**	**25791**	**32.26**
2	243	0	0.00	1	0.00	37	414	1700	2.13	27491	34.38
3	262	0	0.00	1	0.00	38	417	1694	2.12	29185	36.50
4	275	0	0.00	1	0.00	39	419	1841	2.30	31026	38.80
5	286	0	0.00	1	0.00	40	422	1784	2.23	32810	41.03
6	295	2	0.00	3	0.00	41	425	1883	2.35	34693	43.39
7	302	3	0.00	6	0.01	**42**	**428**	**1960**	**2.45**	**36653**	**45.84**
8	309	7	0.01	13	0.02	43	431	1935	2.42	38588	48.26
9	315	22	0.03	35	0.04	44	435	1919	2.40	40507	50.66
10	321	30	0.04	65	0.08	45	438	2033	2.54	42540	53.20
11	326	64	0.08	129	0.16	46	441	1991	2.49	44531	55.69
12	331	118	0.15	247	0.31	47	444	2064	2.58	46595	58.27
13	336	165	0.21	412	0.52	48	448	2062	2.58	48657	60.85
14	340	239	0.30	651	0.81	49	451	2125	2.66	50782	63.51
15	344	379	0.47	1030	1.29	50	455	2002	2.50	52784	66.01
16	348	445	0.56	1475	1.84	51	458	2045	2.56	54829	68.57
17	352	561	0.70	2036	2.55	52	462	2099	2.63	56928	71.20
18	355	662	0.83	2698	3.37	53	466	1957	2.45	58885	73.64
19	359	724	0.91	3422	4.28	54	470	1986	2.48	60871	76.13
20	362	861	1.08	4283	5.36	**55**	**475**	**1921**	**2.40**	**62792**	**78.53**
21	366	985	1.23	5268	6.59	56	479	1976	2.47	64768	81.00
22	369	1042	1.30	6310	7.89	57	484	1885	2.36	66653	83.36
23	372	1030	1.29	7340	9.18	58	490	1880	2.35	68533	85.71
24	375	1117	1.40	8457	10.58	59	495	1835	2.29	70368	88.01
25	379	1234	1.54	9691	12.12	60	501	1701	2.13	72069	90.13
26	382	1198	1.50	10889	13.62	61	508	1618	2.02	73687	92.16
27	385	1308	1.64	12197	15.25	62	516	1413	1.77	75100	93.92
28	388	1331	1.66	13528	16.92	63	525	1333	1.67	76433	95.59
29	390	1368	1.71	14896	18.63	64	535	1175	1.47	77608	97.06
30	393	1440	1.80	16336	20.43	65	549	1014	1.27	78622	98.33
31	396	1518	1.90	17854	22.33	66	567	725	0.91	79347	99.24
32	399	1502	1.88	19356	24.21	67	598	448	0.56	79795	99.80
33	402	1502	1.88	20858	26.09	68	640	163	0.20	79958	100.00
34	405	1574	1.97	22432	28.05						

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Table 8.1.1.16
Spring 2012 AIMS Frequency Distribution Mathematics CRT High School Cohort 14

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	43	477	1343	1.79	23956	31.92
1	300	1	0.00	1	0.00	44	479	1338	1.78	25294	33.70
2	308	1	0.00	2	0.00	45	481	1458	1.94	26752	35.64
3	326	0	0.00	2	0.00	46	483	1404	1.87	28156	37.52
4	338	0	0.00	2	0.00	47	486	1465	1.95	29621	39.47
5	348	0	0.00	2	0.00	**48**	**488**	**1473**	**1.96**	**31094**	**41.43**
6	357	0	0.00	2	0.00	49	490	1609	2.14	32703	43.57
7	364	0	0.00	2	0.00	50	493	1506	2.01	34209	45.58
8	371	1	0.00	3	0.00	51	495	1585	2.11	35794	47.69
9	376	0	0.00	3	0.00	52	497	1599	2.13	37393	49.82
10	382	3	0.00	6	0.01	53	500	1671	2.23	39064	52.05
11	386	3	0.00	9	0.01	54	502	1636	2.18	40700	54.23
12	391	6	0.01	15	0.02	55	505	1663	2.22	42363	56.44
13	395	17	0.02	32	0.04	56	507	1607	2.14	43970	58.59
14	399	39	0.05	71	0.09	57	510	1650	2.20	45620	60.78
15	403	55	0.07	126	0.17	58	512	1659	2.21	47279	62.99
16	406	82	0.11	208	0.28	59	515	1571	2.09	48850	65.09
17	410	130	0.17	338	0.45	60	518	1555	2.07	50405	67.16
18	413	185	0.25	523	0.70	61	520	1546	2.06	51951	69.22
19	416	265	0.35	788	1.05	62	523	1484	1.98	53435	71.20
20	419	344	0.46	1132	1.51	63	526	1565	2.09	55000	73.28
21	422	420	0.56	1552	2.07	64	529	1470	1.96	56470	75.24
22	425	547	0.73	2099	2.80	65	532	1518	2.02	57988	77.26
23	428	601	0.80	2700	3.60	66	535	1404	1.87	59392	79.13
24	431	652	0.87	3352	4.47	**67**	**539**	**1311**	**1.75**	**60703**	**80.88**
25	434	802	1.07	4154	5.53	68	542	1320	1.76	62023	82.64
26	436	841	1.12	4995	6.66	69	545	1252	1.67	63275	84.31
27	439	889	1.18	5884	7.84	70	549	1226	1.63	64501	85.94
28	441	891	1.19	6775	9.03	71	553	1140	1.52	65641	87.46
29	444	921	1.23	7696	10.25	72	557	1096	1.46	66737	88.92
30	446	1026	1.37	8722	11.62	73	561	1083	1.44	67820	90.36
31	449	1002	1.34	9724	12.96	74	566	1004	1.34	68824	91.70
32	451	1077	1.44	10801	14.39	75	571	971	1.29	69795	93.00
33	454	1081	1.44	11882	15.83	76	576	906	1.21	70701	94.20
34	456	1096	1.46	12978	17.29	77	582	856	1.14	71557	95.34
35	458	1138	1.52	14116	18.81	78	589	763	1.02	72320	96.36
36	461	1113	1.48	15229	20.29	79	596	705	0.94	73025	97.30
37	463	1189	1.58	16418	21.88	80	605	661	0.88	73686	98.18
38	465	1232	1.64	17650	23.52	81	615	528	0.70	74214	98.88
39	468	1204	1.60	18854	25.12	82	629	394	0.52	74608	99.41
40	470	1247	1.66	20101	26.78	83	647	260	0.35	74868	99.75
41	**472**	**1250**	**1.67**	**21351**	**28.45**	84	677	141	0.19	75009	99.94
42	474	1262	1.68	22613	30.13	85	700	43	0.06	75052	100.00

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.17
Spring 2012 AIMS Frequency Distribution Mathematics CRT High School Cohort 13

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	43	477	626	3.30	12600	66.41
1	300	0	0.00	0	0.00	44	479	648	3.42	13248	69.83
2	308	0	0.00	0	0.00	45	481	595	3.14	13843	72.97
3	326	1	0.01	1	0.01	46	483	542	2.86	14385	75.82
4	338	0	0.00	1	0.01	47	486	535	2.82	14920	78.64
5	348	0	0.00	1	0.01	**48**	**488**	**512**	**2.70**	**15432**	**81.34**
6	357	0	0.00	1	0.01	49	490	455	2.40	15887	83.74
7	364	0	0.00	1	0.01	50	493	371	1.96	16258	85.69
8	371	1	0.01	2	0.01	51	495	356	1.88	16614	87.57
9	376	1	0.01	3	0.02	52	497	320	1.69	16934	89.26
10	382	1	0.01	4	0.02	53	500	288	1.52	17222	90.78
11	386	2	0.01	6	0.03	54	502	228	1.20	17450	91.98
12	391	6	0.03	12	0.06	55	505	214	1.13	17664	93.11
13	395	5	0.03	17	0.09	56	507	192	1.01	17856	94.12
14	399	10	0.05	27	0.14	57	510	167	0.88	18023	95.00
15	403	27	0.14	54	0.28	58	512	130	0.69	18153	95.68
16	406	42	0.22	96	0.51	59	515	109	0.57	18262	96.26
17	410	61	0.32	157	0.83	60	518	90	0.47	18352	96.73
18	413	80	0.42	237	1.25	61	520	81	0.43	18433	97.16
19	416	145	0.76	382	2.01	62	523	59	0.31	18492	97.47
20	419	171	0.90	553	2.91	63	526	67	0.35	18559	97.82
21	422	209	1.10	762	4.02	64	529	54	0.28	18613	98.11
22	425	275	1.45	1037	5.47	65	532	56	0.30	18669	98.40
23	428	311	1.64	1348	7.11	66	535	41	0.22	18710	98.62
24	431	329	1.73	1677	8.84	**67**	**539**	**41**	**0.22**	**18751**	**98.84**
25	434	375	1.98	2052	10.82	68	542	33	0.17	18784	99.01
26	436	407	2.15	2459	12.96	69	545	29	0.15	18813	99.16
27	439	446	2.35	2905	15.31	70	549	28	0.15	18841	99.31
28	441	492	2.59	3397	17.91	71	553	18	0.09	18859	99.40
29	444	496	2.61	3893	20.52	72	557	20	0.11	18879	99.51
30	446	569	3.00	4462	23.52	73	561	14	0.07	18893	99.58
31	449	550	2.90	5012	26.42	74	566	19	0.10	18912	99.68
32	451	611	3.22	5623	29.64	75	571	13	0.07	18925	99.75
33	454	598	3.15	6221	32.79	76	576	14	0.07	18939	99.83
34	456	604	3.18	6825	35.97	77	582	10	0.05	18949	99.88
35	458	629	3.32	7454	39.29	78	589	5	0.03	18954	99.91
36	461	630	3.32	8084	42.61	79	596	5	0.03	18959	99.93
37	463	616	3.25	8700	45.86	80	605	5	0.03	18964	99.96
38	465	663	3.49	9363	49.35	81	615	4	0.02	18968	99.98
39	468	623	3.28	9986	52.64	82	629	3	0.02	18971	99.99
40	470	641	3.38	10627	56.01	83	647	1	0.01	18972	100.00
41	**472**	**660**	**3.48**	**11287**	**59.49**	84	677	0	0.00	18972	100.00
42	474	687	3.62	11974	63.11	85	700	0	0.00	18972	100.00

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.18
Spring 2012 AIMS Frequency Distribution Mathematics CRT High School Cohort 12

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	43	477	450	3.56	9091	72.00
1	300	0	0.00	0	0.00	44	479	400	3.17	9491	75.16
2	308	0	0.00	0	0.00	45	481	395	3.13	9886	78.29
3	326	0	0.00	0	0.00	46	483	384	3.04	10270	81.33
4	338	0	0.00	0	0.00	47	486	329	2.61	10599	83.94
5	348	0	0.00	0	0.00	**48**	**488**	**265**	**2.10**	**10864**	**86.04**
6	357	0	0.00	0	0.00	49	490	271	2.15	11135	88.18
7	364	0	0.00	0	0.00	50	493	250	1.98	11385	90.16
8	371	0	0.00	0	0.00	51	495	201	1.59	11586	91.76
9	376	0	0.00	0	0.00	52	497	154	1.22	11740	92.98
10	382	1	0.01	1	0.01	53	500	154	1.22	11894	94.19
11	386	0	0.00	1	0.01	54	502	142	1.12	12036	95.32
12	391	2	0.02	3	0.02	55	505	122	0.97	12158	96.29
13	395	3	0.02	6	0.05	56	507	87	0.69	12245	96.97
14	399	13	0.10	19	0.15	57	510	62	0.49	12307	97.47
15	403	27	0.21	46	0.36	58	512	57	0.45	12364	97.92
16	406	25	0.20	71	0.56	59	515	44	0.35	12408	98.27
17	410	48	0.38	119	0.94	60	518	32	0.25	12440	98.52
18	413	71	0.56	190	1.50	61	520	28	0.22	12468	98.74
19	416	113	0.89	303	2.40	62	523	21	0.17	12489	98.91
20	419	120	0.95	423	3.35	63	526	17	0.13	12506	99.04
21	422	165	1.31	588	4.66	64	529	23	0.18	12529	99.22
22	425	196	1.55	784	6.21	65	532	17	0.13	12546	99.36
23	428	225	1.78	1009	7.99	66	535	12	0.10	12558	99.45
24	431	267	2.11	1276	10.11	**67**	**539**	**7**	**0.06**	**12565**	**99.51**
25	434	310	2.46	1586	12.56	68	542	11	0.09	12576	99.60
26	436	293	2.32	1879	14.88	69	545	9	0.07	12585	99.67
27	439	299	2.37	2178	17.25	70	549	1	0.01	12586	99.68
28	441	344	2.72	2522	19.97	71	553	6	0.05	12592	99.72
29	444	372	2.95	2894	22.92	72	557	4	0.03	12596	99.75
30	446	442	3.50	3336	26.42	73	561	3	0.02	12599	99.78
31	449	383	3.03	3719	29.45	74	566	8	0.06	12607	99.84
32	451	421	3.33	4140	32.79	75	571	7	0.06	12614	99.90
33	454	475	3.76	4615	36.55	76	576	3	0.02	12617	99.92
34	456	437	3.46	5052	40.01	77	582	4	0.03	12621	99.95
35	458	418	3.31	5470	43.32	78	589	1	0.01	12622	99.96
36	461	500	3.96	5970	47.28	79	596	1	0.01	12623	99.97
37	463	445	3.52	6415	50.80	80	605	3	0.02	12626	99.99
38	465	442	3.50	6857	54.30	81	615	1	0.01	12627	100.00
39	468	464	3.67	7321	57.98	82	629	0	0.00	12627	100.00
40	470	468	3.71	7789	61.69	83	647	0	0.00	12627	100.00
41	**472**	**429**	**3.40**	**8218**	**65.08**	84	677	0	0.00	12627	100.00
42	474	423	3.35	8641	68.43	85	700	0	0.00	12627	100.00

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.19
Spring 2012 AIMS Frequency Distribution
Reading CRT Grade 3

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	200	0	0.00	0	0.00	28	424	1738	2.10	18728	22.59
1	242	0	0.00	0	0.00	29	428	1845	2.23	20573	24.81
2	272	0	0.00	0	0.00	**30**	**431**	**1816**	**2.19**	**22389**	**27.00**
3	290	0	0.00	0	0.00	31	435	1941	2.34	24330	29.35
4	303	3	0.00	3	0.00	32	439	2062	2.49	26392	31.83
5	314	8	0.01	11	0.01	33	442	2222	2.68	28614	34.51
6	323	14	0.02	25	0.03	34	446	2316	2.79	30930	37.31
7	331	48	0.06	73	0.09	35	450	2419	2.92	33349	40.22
8	338	80	0.10	153	0.18	36	454	2565	3.09	35914	43.32
9	344	121	0.15	274	0.33	37	458	2682	3.23	38596	46.55
10	350	218	0.26	492	0.59	38	462	2871	3.46	41467	50.02
11	356	341	0.41	833	1.00	39	466	2964	3.58	44431	53.59
12	361	444	0.54	1277	1.54	40	471	2936	3.54	47367	57.13
13	366	582	0.70	1859	2.24	41	475	3242	3.91	50609	61.04
14	370	676	0.82	2535	3.06	42	480	3155	3.81	53764	64.85
15	375	735	0.89	3270	3.94	43	485	3391	4.09	57155	68.94
16	**379**	**747**	**0.90**	**4017**	**4.85**	44	490	3537	4.27	60692	73.20
17	383	814	0.98	4831	5.83	45	496	3355	4.05	64047	77.25
18	387	892	1.08	5723	6.90	46	502	3376	4.07	67423	81.32
19	391	881	1.06	6604	7.97	47	509	3451	4.16	70874	85.48
20	395	971	1.17	7575	9.14	**48**	**517**	**3158**	**3.81**	**74032**	**89.29**
21	399	1120	1.35	8695	10.49	49	526	2792	3.37	76824	92.66
22	403	1151	1.39	9846	11.88	50	536	2350	2.83	79174	95.50
23	406	1275	1.54	11121	13.41	51	549	1839	2.22	81013	97.71
24	410	1360	1.64	12481	15.05	52	567	1175	1.42	82188	99.13
25	414	1411	1.70	13892	16.76	53	597	539	0.65	82727	99.78
26	417	1524	1.84	15416	18.59	54	640	182	0.22	82909	100.00
27	421	1574	1.90	16990	20.49						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.20
Spring 2012 AIMS Frequency Distribution
Reading CRT Grade 4

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	220	0	0.00	0	0.00	28	446	1533	1.87	18530	22.62
1	279	0	0.00	0	0.00	29	449	1624	1.98	20154	24.60
2	307	0	0.00	0	0.00	**30**	**452**	**1730**	**2.11**	**21884**	**26.71**
3	324	0	0.00	0	0.00	31	456	1816	2.22	23700	28.93
4	336	1	0.00	1	0.00	32	459	1895	2.31	25595	31.24
5	346	8	0.01	9	0.01	33	462	2116	2.58	27711	33.82
6	354	23	0.03	32	0.04	34	466	2149	2.62	29860	36.44
7	361	25	0.03	57	0.07	35	469	2319	2.83	32179	39.27
8	368	73	0.09	130	0.16	36	473	2395	2.92	34574	42.20
9	373	149	0.18	279	0.34	37	476	2476	3.02	37050	45.22
10	379	246	0.30	525	0.64	38	480	2687	3.28	39737	48.50
11	384	354	0.43	879	1.07	39	484	2781	3.39	42518	51.89
12	389	479	0.58	1358	1.66	40	488	2947	3.60	45465	55.49
13	393	620	0.76	1978	2.41	41	492	3108	3.79	48573	59.28
14	397	734	0.90	2712	3.31	42	496	3078	3.76	51651	63.04
15	401	820	1.00	3532	4.31	43	501	3399	4.15	55050	67.19
16	**405**	**874**	**1.07**	**4406**	**5.38**	44	506	3427	4.18	58477	71.37
17	409	919	1.12	5325	6.50	45	511	3420	4.17	61897	75.55
18	413	934	1.14	6259	7.64	46	517	3460	4.22	65357	79.77
19	416	955	1.17	7214	8.80	47	523	3462	4.23	68819	83.99
20	420	1022	1.25	8236	10.05	48	530	3298	4.03	72117	88.02
21	423	1036	1.26	9272	11.32	**49**	**538**	**2994**	**3.65**	**75111**	**91.67**
22	426	1118	1.36	10390	12.68	50	548	2670	3.26	77781	94.93
23	430	1150	1.40	11540	14.08	51	560	2006	2.45	79787	97.38
24	433	1282	1.56	12822	15.65	52	577	1296	1.58	81083	98.96
25	436	1377	1.68	14199	17.33	53	604	676	0.83	81759	99.79
26	439	1399	1.71	15598	19.04	54	660	174	0.21	81933	100.00
27	443	1399	1.71	16997	20.74						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.21
Spring 2012 AIMS Frequency Distribution
Reading CRT Grade 5

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	240	0	0.00	0	0.00	28	466	1526	1.85	17908	21.74
1	288	0	0.00	0	0.00	**29**	**470**	**1608**	**1.95**	**19516**	**23.69**
2	317	0	0.00	0	0.00	30	473	1773	2.15	21289	25.84
3	335	0	0.00	0	0.00	31	477	1895	2.30	23184	28.14
4	348	2	0.00	2	0.00	32	480	1977	2.40	25161	30.54
5	359	4	0.00	6	0.01	33	484	2061	2.50	27222	33.04
6	368	14	0.02	20	0.02	34	488	2318	2.81	29540	35.86
7	376	41	0.05	61	0.07	35	491	2308	2.80	31848	38.66
8	382	61	0.07	122	0.15	36	495	2580	3.13	34428	41.79
9	389	127	0.15	249	0.30	37	499	2804	3.40	37232	45.19
10	394	219	0.27	468	0.57	38	503	2943	3.57	40175	48.77
11	400	330	0.40	798	0.97	39	507	3163	3.84	43338	52.61
12	405	448	0.54	1246	1.51	40	511	3295	4.00	46633	56.61
13	410	557	0.68	1803	2.19	41	516	3415	4.15	50048	60.75
14	414	718	0.87	2521	3.06	42	521	3687	4.48	53735	65.23
15	418	742	0.90	3263	3.96	43	525	3858	4.68	57593	69.91
16	423	868	1.05	4131	5.01	44	531	3897	4.73	61490	74.64
17	**427**	**870**	**1.06**	**5001**	**6.07**	45	536	3920	4.76	65410	79.40
18	431	945	1.15	5946	7.22	46	543	3706	4.50	69116	83.90
19	434	997	1.21	6943	8.43	47	549	3429	4.16	72545	88.06
20	438	969	1.18	7912	9.60	**48**	**557**	**3119**	**3.79**	**75664**	**91.84**
21	442	1046	1.27	8958	10.87	49	565	2527	3.07	78191	94.91
22	445	1064	1.29	10022	12.17	50	576	1858	2.26	80049	97.17
23	449	1179	1.43	11201	13.60	51	589	1315	1.60	81364	98.76
24	452	1181	1.43	12382	15.03	52	606	682	0.83	82046	99.59
25	456	1268	1.54	13650	16.57	53	635	276	0.34	82322	99.93
26	459	1359	1.65	15009	18.22	54	675	61	0.07	82383	100.00
27	463	1373	1.67	16382	19.89						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.22
Spring 2012 AIMS Frequency Distribution
Reading CRT Grade 6

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	250	0	0.00	0	0.00	**28**	**478**	**1617**	**1.97**	**17825**	**21.73**
1	293	1	0.00	1	0.00	29	482	1703	2.08	19528	23.81
2	324	0	0.00	1	0.00	30	486	1794	2.19	21322	25.99
3	342	0	0.00	1	0.00	31	489	1850	2.26	23172	28.25
4	356	1	0.00	2	0.00	32	493	2115	2.58	25287	30.83
5	367	2	0.00	4	0.00	33	497	2173	2.65	27460	33.48
6	376	13	0.02	17	0.02	34	500	2346	2.86	29806	36.34
7	384	22	0.03	39	0.05	35	504	2475	3.02	32281	39.35
8	391	50	0.06	89	0.11	36	508	2625	3.20	34906	42.55
9	398	121	0.15	210	0.26	37	512	2815	3.43	37721	45.99
10	404	194	0.24	404	0.49	38	516	3024	3.69	40745	49.67
11	409	302	0.37	706	0.86	39	520	3155	3.85	43900	53.52
12	415	389	0.47	1095	1.33	40	525	3392	4.14	47292	57.65
13	420	535	0.65	1630	1.99	41	529	3534	4.31	50826	61.96
14	424	604	0.74	2234	2.72	42	534	3607	4.40	54433	66.36
15	429	709	0.86	2943	3.59	43	539	3752	4.57	58185	70.93
16	**433**	**817**	**1.00**	**3760**	**4.58**	44	545	3795	4.63	61980	75.56
17	437	862	1.05	4622	5.63	45	551	3724	4.54	65704	80.10
18	441	847	1.03	5469	6.67	46	557	3697	4.51	69401	84.61
19	445	1022	1.25	6491	7.91	47	564	3390	4.13	72791	88.74
20	449	981	1.20	7472	9.11	**48**	**572**	**2907**	**3.54**	**75698**	**92.28**
21	453	1042	1.27	8514	10.38	49	581	2423	2.95	78121	95.24
22	457	1129	1.38	9643	11.76	50	591	1814	2.21	79935	97.45
23	460	1151	1.40	10794	13.16	51	605	1199	1.46	81134	98.91
24	464	1192	1.45	11986	14.61	52	623	636	0.78	81770	99.69
25	468	1327	1.62	13313	16.23	53	652	215	0.26	81985	99.95
26	471	1436	1.75	14749	17.98	54	690	42	0.05	82027	100.00
27	475	1459	1.78	16208	19.76						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.23
Spring 2012 AIMS Frequency Distribution
Reading CRT Grade 7

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	260	0	0.00	0	0.00	28	495	1699	2.08	16382	20.09
1	307	0	0.00	0	0.00	29	499	1790	2.20	18172	22.29
2	339	0	0.00	0	0.00	30	503	1931	2.37	20103	24.66
3	358	0	0.00	0	0.00	31	506	2065	2.53	22168	27.19
4	371	2	0.00	2	0.00	32	510	2196	2.69	24364	29.88
5	382	3	0.00	5	0.01	33	514	2301	2.82	26665	32.71
6	392	7	0.01	12	0.01	34	518	2448	3.00	29113	35.71
7	400	15	0.02	27	0.03	35	522	2659	3.26	31772	38.97
8	407	33	0.04	60	0.07	36	526	2759	3.38	34531	42.36
9	414	64	0.08	124	0.15	37	530	2879	3.53	37410	45.89
10	420	107	0.13	231	0.28	38	534	3103	3.81	40513	49.69
11	425	167	0.20	398	0.49	39	539	3186	3.91	43699	53.60
12	430	274	0.34	672	0.82	40	544	3337	4.09	47036	57.69
13	435	365	0.45	1037	1.27	41	548	3425	4.20	50461	61.89
14	440	438	0.54	1475	1.81	42	553	3644	4.47	54105	66.36
15	**445**	**577**	**0.71**	**2052**	**2.52**	43	559	3695	4.53	57800	70.90
16	449	672	0.82	2724	3.34	44	564	3609	4.43	61409	75.32
17	453	721	0.88	3445	4.23	45	571	3632	4.45	65041	79.78
18	457	798	0.98	4243	5.20	46	577	3492	4.28	68533	84.06
19	461	839	1.03	5082	6.23	47	585	3211	3.94	71744	88.00
20	465	921	1.13	6003	7.36	**48**	**593**	**2950**	**3.62**	**74694**	**91.62**
21	469	1037	1.27	7040	8.64	49	602	2491	3.06	77185	94.67
22	473	1010	1.24	8050	9.87	50	613	1942	2.38	79127	97.06
23	477	1064	1.31	9114	11.18	51	628	1291	1.58	80418	98.64
24	481	1253	1.54	10367	12.72	52	647	724	0.89	81142	99.53
25	484	1338	1.64	11705	14.36	53	679	307	0.38	81449	99.90
26	488	1477	1.81	13182	16.17	54	720	78	0.10	81527	100.00
27	**492**	**1501**	**1.84**	**14683**	**18.01**						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.24
Spring 2012 AIMS Frequency Distribution
Reading CRT Grade 8

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	270	1	0.00	1	0.00	28	477	1308	1.64	13855	17.33
1	270	0	0.00	1	0.00	29	481	1454	1.82	15309	19.15
2	297	0	0.00	1	0.00	30	485	1636	2.05	16945	21.19
3	319	2	0.00	3	0.00	31	489	1721	2.15	18666	23.34
4	335	1	0.00	4	0.01	32	494	1897	2.37	20563	25.72
5	348	1	0.00	5	0.01	33	498	2148	2.69	22711	28.40
6	358	11	0.01	16	0.02	**34**	**502**	**2183**	**2.73**	**24894**	**31.13**
7	367	12	0.02	28	0.04	35	507	2500	3.13	27394	34.26
8	376	36	0.05	64	0.08	36	511	2797	3.50	30191	37.76
9	383	72	0.09	136	0.17	37	516	2895	3.62	33086	41.38
10	390	123	0.15	259	0.32	38	521	3109	3.89	36195	45.27
11	397	185	0.23	444	0.56	39	526	3308	4.14	39503	49.40
12	403	274	0.34	718	0.90	40	531	3451	4.32	42954	53.72
13	408	364	0.46	1082	1.35	41	536	3599	4.50	46553	58.22
14	414	450	0.56	1532	1.92	42	542	3853	4.82	50406	63.04
15	419	550	0.69	2082	2.60	43	548	3939	4.93	54345	67.96
16	424	572	0.72	2654	3.32	44	554	3945	4.93	58290	72.90
17	429	643	0.80	3297	4.12	45	561	4006	5.01	62296	77.91
18	434	695	0.87	3992	4.99	46	569	3820	4.78	66116	82.69
19	438	749	0.94	4741	5.93	47	577	3586	4.48	69702	87.17
20	443	766	0.96	5507	6.89	48	586	3177	3.97	72879	91.14
21	447	812	1.02	6319	7.90	49	597	2640	3.30	75519	94.44
22	451	902	1.13	7221	9.03	**50**	**609**	**2002**	**2.50**	**77521**	**96.95**
23	**456**	**935**	**1.17**	**8156**	**10.20**	51	625	1384	1.73	78905	98.68
24	460	947	1.18	9103	11.38	52	647	746	0.93	79651	99.61
25	464	1069	1.34	10172	12.72	53	683	272	0.34	79923	99.95
26	468	1173	1.47	11345	14.19	54	800	38	0.05	79961	100.00
27	472	1202	1.50	12547	15.69						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.25
Spring 2012 AIMS Frequency Distribution
Reading CRT High School Cohort 14

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	500	0	0.00	0	0.00	28	681	1924	2.49	19025	24.62
1	500	0	0.00	0	0.00	29	684	2052	2.66	21077	27.27
2	515	1	0.00	1	0.00	30	688	2135	2.76	23212	30.04
3	534	0	0.00	1	0.00	31	692	2315	3.00	25527	33.03
4	548	7	0.01	8	0.01	32	696	2433	3.15	27960	36.18
5	560	2	0.00	10	0.01	33	700	2529	3.27	30489	39.45
6	570	12	0.02	22	0.03	34	704	2547	3.30	33036	42.75
7	578	24	0.03	46	0.06	35	709	2680	3.47	35716	46.21
8	586	52	0.07	98	0.13	36	713	2782	3.60	38498	49.81
9	593	105	0.14	203	0.26	37	717	2925	3.78	41423	53.60
10	599	170	0.22	373	0.48	38	722	2975	3.85	44398	57.45
11	605	234	0.30	607	0.79	39	726	2941	3.81	47339	61.25
12	611	318	0.41	925	1.20	40	731	3107	4.02	50446	65.27
13	616	428	0.55	1353	1.75	41	736	3183	4.12	53629	69.39
14	621	515	0.67	1868	2.42	42	741	3114	4.03	56743	73.42
15	626	669	0.87	2537	3.28	43	747	3139	4.06	59882	77.48
16	**631**	**743**	**0.96**	**3280**	**4.24**	44	753	3090	4.00	62972	81.48
17	635	784	1.01	4064	5.26	45	759	2830	3.66	65802	85.14
18	640	860	1.11	4924	6.37	46	766	2682	3.47	68484	88.61
19	644	991	1.28	5915	7.65	**47**	**773**	**2456**	**3.18**	**70940**	**91.79**
20	648	1033	1.34	6948	8.99	48	782	2106	2.73	73046	94.52
21	653	1144	1.48	8092	10.47	49	791	1770	2.29	74816	96.81
22	657	1222	1.58	9314	12.05	50	803	1212	1.57	76028	98.38
23	661	1326	1.72	10640	13.77	51	817	776	1.00	76804	99.38
24	665	1399	1.81	12039	15.58	52	836	358	0.46	77162	99.84
25	669	1590	2.06	13629	17.64	53	867	106	0.14	77268	99.98
26	673	1703	2.20	15332	19.84	54	900	15	0.02	77283	100.00
27	**677**	**1769**	**2.29**	**17101**	**22.13**						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.26
Spring 2012 AIMS Frequency Distribution
Reading CRT High School Cohort 13

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	500	1	0.01	1	0.01	28	681	422	3.76	7341	65.38
1	500	0	0.00	1	0.01	29	684	397	3.54	7738	68.91
2	515	4	0.04	5	0.04	30	688	364	3.24	8102	72.15
3	534	0	0.00	5	0.04	31	692	325	2.89	8427	75.05
4	548	0	0.00	5	0.04	32	696	267	2.38	8694	77.42
5	560	0	0.00	5	0.04	33	700	222	1.98	8916	79.40
6	570	10	0.09	15	0.13	34	704	203	1.81	9119	81.21
7	578	12	0.11	27	0.24	35	709	139	1.24	9258	82.45
8	586	27	0.24	54	0.48	36	713	138	1.23	9396	83.68
9	593	49	0.44	103	0.92	37	717	128	1.14	9524	84.82
10	599	73	0.65	176	1.57	38	722	106	0.94	9630	85.76
11	605	112	1.00	288	2.56	39	726	121	1.08	9751	86.84
12	611	170	1.51	458	4.08	40	731	124	1.10	9875	87.94
13	616	235	2.09	693	6.17	41	736	108	0.96	9983	88.90
14	621	272	2.42	965	8.59	42	741	140	1.25	10123	90.15
15	626	310	2.76	1275	11.35	43	747	163	1.45	10286	91.60
16	**631**	**371**	**3.30**	**1646**	**14.66**	44	753	134	1.19	10420	92.80
17	635	398	3.54	2044	18.20	45	759	169	1.51	10589	94.30
18	640	461	4.11	2505	22.31	46	766	140	1.25	10729	95.55
19	644	433	3.86	2938	26.16	**47**	**773**	**162**	**1.44**	**10891**	**96.99**
20	648	457	4.07	3395	30.23	48	782	110	0.98	11001	97.97
21	653	461	4.11	3856	34.34	49	791	115	1.02	11116	98.99
22	657	497	4.43	4353	38.77	50	803	73	0.65	11189	99.64
23	661	515	4.59	4868	43.35	51	817	30	0.27	11219	99.91
24	665	524	4.67	5392	48.02	52	836	7	0.06	11226	99.97
25	669	520	4.63	5912	52.65	53	867	3	0.03	11229	100.00
26	673	500	4.45	6412	57.10	54	900	0	0.00	11229	100.00
27	**677**	**507**	**4.52**	**6919**	**61.62**						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.27
Spring 2012 AIMS Frequency Distribution
Reading CRT High School Cohort 12

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	500	0	0.00	0	0.00	28	681	202	3.27	4794	77.56
1	500	0	0.00	0	0.00	29	684	209	3.38	5003	80.94
2	515	1	0.02	1	0.02	30	688	169	2.73	5172	83.68
3	534	0	0.00	1	0.02	31	692	132	2.14	5304	85.81
4	548	1	0.02	2	0.03	32	696	123	1.99	5427	87.80
5	560	1	0.02	3	0.05	33	700	101	1.63	5528	89.44
6	570	2	0.03	5	0.08	34	704	81	1.31	5609	90.75
7	578	14	0.23	19	0.31	35	709	66	1.07	5675	91.81
8	586	28	0.45	47	0.76	36	713	63	1.02	5738	92.83
9	593	27	0.44	74	1.20	37	717	47	0.76	5785	93.59
10	599	60	0.97	134	2.17	38	722	54	0.87	5839	94.47
11	605	101	1.63	235	3.80	39	726	54	0.87	5893	95.34
12	611	133	2.15	368	5.95	40	731	28	0.45	5921	95.79
13	616	156	2.52	524	8.48	41	736	28	0.45	5949	96.25
14	621	202	3.27	726	11.75	42	741	34	0.55	5983	96.80
15	626	216	3.49	942	15.24	43	747	29	0.47	6012	97.27
16	**631**	**250**	**4.04**	**1192**	**19.28**	44	753	27	0.44	6039	97.70
17	635	264	4.27	1456	23.56	45	759	33	0.53	6072	98.24
18	640	327	5.29	1783	28.85	46	766	30	0.49	6102	98.72
19	644	313	5.06	2096	33.91	**47**	**773**	**18**	**0.29**	**6120**	**99.01**
20	648	334	5.40	2430	39.31	48	782	18	0.29	6138	99.30
21	653	318	5.14	2748	44.46	49	791	14	0.23	6152	99.53
22	657	347	5.61	3095	50.07	50	803	12	0.19	6164	99.72
23	661	317	5.13	3412	55.20	51	817	7	0.11	6171	99.84
24	665	341	5.52	3753	60.72	52	836	8	0.13	6179	99.97
25	669	289	4.68	4042	65.39	53	867	1	0.02	6180	99.98
26	673	291	4.71	4333	70.10	54	900	1	0.02	6181	100.00
27	**677**	**259**	**4.19**	**4592**	**74.29**						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.28
Spring 2012 AIMS Frequency Distribution
Writing CRT Grade 5

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	35	460	1699	2.09	15171	18.68
1	300	0	0.00	0	0.00	36	463	1735	2.14	16906	20.81
2	300	0	0.00	0	0.00	37	467	2031	2.50	18937	23.31
3	300	0	0.00	0	0.00	38	470	2085	2.57	21022	25.88
4	300	0	0.00	0	0.00	39	473	2135	2.63	23157	28.51
5	300	0	0.00	0	0.00	40	477	2268	2.79	25425	31.30
6	300	0	0.00	0	0.00	41	480	2379	2.93	27804	34.23
7	300	1	0.00	1	0.00	42	483	2374	2.92	30178	37.15
8	300	0	0.00	1	0.00	43	487	2600	3.20	32778	40.35
9	321	4	0.00	5	0.01	44	491	2651	3.26	35429	43.61
10	336	21	0.03	26	0.03	**45**	**494**	**2855**	**3.51**	**38284**	**47.13**
11	347	42	0.05	68	0.08	46	498	3077	3.79	41361	50.92
12	356	69	0.08	137	0.17	47	502	3140	3.87	44501	54.78
13	364	73	0.09	210	0.26	48	506	3349	4.12	47850	58.90
14	371	84	0.10	294	0.36	49	511	3535	4.35	51385	63.25
15	378	88	0.11	382	0.47	50	515	3714	4.57	55099	67.83
16	384	68	0.08	450	0.55	51	520	3586	4.41	58685	72.24
17	390	105	0.13	555	0.68	52	525	3451	4.25	62136	76.49
18	395	158	0.19	713	0.88	53	531	2874	3.54	65010	80.03
19	400	272	0.33	985	1.21	54	536	2214	2.73	67224	82.75
20	405	376	0.46	1361	1.68	55	543	1463	1.80	68687	84.55
21	409	476	0.59	1837	2.26	56	549	1036	1.28	69723	85.83
22	414	526	0.65	2363	2.91	57	556	1222	1.50	70945	87.33
23	418	507	0.62	2870	3.53	58	564	1548	1.91	72493	89.24
24	422	524	0.65	3394	4.18	59	572	1738	2.14	74231	91.38
25	426	558	0.69	3952	4.86	60	580	1847	2.27	76078	93.65
26	429	557	0.69	4509	5.55	61	589	1463	1.80	77541	95.45
27	433	633	0.78	5142	6.33	62	599	899	1.11	78440	96.56
28	437	854	1.05	5996	7.38	**63**	**609**	**147**	**0.18**	**78587**	**96.74**
29	**440**	**947**	**1.17**	**6943**	**8.55**	64	620	202	0.25	78789	96.99
30	444	1089	1.34	8032	9.89	65	631	312	0.38	79101	97.37
31	447	1183	1.46	9215	11.34	66	644	453	0.56	79554	97.93
32	450	1255	1.54	10470	12.89	67	660	563	0.69	80117	98.62
33	454	1436	1.77	11906	14.66	68	684	641	0.79	80758	99.41
34	457	1566	1.93	13472	16.58	69	700	477	0.59	81235	100.00

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.29
Spring 2012 AIMS Frequency Distribution
Writing CRT Grade 6

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	35	461	1805	2.22	16247	19.97
1	300	0	0.00	0	0.00	36	465	1819	2.24	18066	22.20
2	300	0	0.00	0	0.00	37	468	2063	2.54	20129	24.74
3	300	0	0.00	0	0.00	38	472	2169	2.67	22298	27.40
4	300	0	0.00	0	0.00	39	475	2337	2.87	24635	30.27
5	300	0	0.00	0	0.00	40	479	2521	3.10	27156	33.37
6	300	0	0.00	0	0.00	41	482	2625	3.23	29781	36.60
7	300	1	0.00	1	0.00	42	486	2634	3.24	32415	39.83
8	300	1	0.00	2	0.00	43	490	2759	3.39	35174	43.22
9	318	7	0.01	9	0.01	**44**	**494**	**2837**	**3.49**	**38011**	**46.71**
10	333	24	0.03	33	0.04	45	498	2939	3.61	40950	50.32
11	345	45	0.06	78	0.10	46	502	3049	3.75	43999	54.07
12	354	106	0.13	184	0.23	47	507	3249	3.99	47248	58.06
13	363	108	0.13	292	0.36	48	511	3648	4.48	50896	62.54
14	370	119	0.15	411	0.51	49	516	3905	4.80	54801	67.34
15	377	106	0.13	517	0.64	50	521	4304	5.29	59105	72.63
16	383	92	0.11	609	0.75	51	527	4022	4.94	63127	77.57
17	389	117	0.14	726	0.89	52	533	3450	4.24	66577	81.81
18	394	186	0.23	912	1.12	53	539	2520	3.10	69097	84.91
19	399	282	0.35	1194	1.47	54	546	1579	1.94	70676	86.85
20	404	419	0.51	1613	1.98	55	553	980	1.20	71656	88.05
21	409	525	0.65	2138	2.63	56	560	909	1.12	72565	89.17
22	413	566	0.70	2704	3.32	57	567	1143	1.40	73708	90.58
23	418	568	0.70	3272	4.02	58	575	1497	1.84	75205	92.42
24	422	589	0.72	3861	4.74	**59**	**584**	**1470**	**1.81**	**76675**	**94.22**
25	426	592	0.73	4453	5.47	60	592	1392	1.71	78067	95.93
26	429	608	0.75	5061	6.22	61	601	926	1.14	78993	97.07
27	433	757	0.93	5818	7.15	62	610	378	0.46	79371	97.53
28	437	876	1.08	6694	8.23	63	620	120	0.15	79491	97.68
29	441	921	1.13	7615	9.36	64	630	207	0.25	79698	97.94
30	444	1168	1.44	8783	10.79	65	642	306	0.38	80004	98.31
31	448	1255	1.54	10038	12.34	66	655	400	0.49	80404	98.80
32	**451**	**1329**	**1.63**	**11367**	**13.97**	67	671	438	0.54	80842	99.34
33	454	1537	1.89	12904	15.86	68	697	378	0.46	81220	99.81
34	458	1538	1.89	14442	17.75	69	700	157	0.19	81377	100.00

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.30
Spring 2012 AIMS Frequency Distribution
Writing CRT Grade 7

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	35	461	1872	2.31	15640	19.32
1	300	0	0.00	0	0.00	36	465	2025	2.50	17665	21.83
2	300	0	0.00	0	0.00	37	468	2105	2.60	19770	24.43
3	300	0	0.00	0	0.00	38	471	2388	2.95	22158	27.38
4	300	0	0.00	0	0.00	39	474	2465	3.05	24623	30.42
5	300	0	0.00	0	0.00	40	478	2667	3.30	27290	33.72
6	300	0	0.00	0	0.00	41	481	2805	3.47	30095	37.18
7	300	0	0.00	0	0.00	42	485	2849	3.52	32944	40.70
8	315	2	0.00	2	0.00	43	488	2923	3.61	35867	44.31
9	336	2	0.00	4	0.00	44	492	2982	3.68	38849	48.00
10	349	17	0.02	21	0.03	**45**	**496**	**2917**	**3.60**	**41766**	**51.60**
11	360	38	0.05	59	0.07	46	500	2853	3.52	44619	55.13
12	368	82	0.10	141	0.17	47	504	2720	3.36	47339	58.49
13	375	113	0.14	254	0.31	48	509	3063	3.78	50402	62.27
14	381	114	0.14	368	0.45	49	513	3507	4.33	53909	66.61
15	387	112	0.14	480	0.59	50	519	4166	5.15	58075	71.75
16	393	103	0.13	583	0.72	51	524	4348	5.37	62423	77.13
17	398	111	0.14	694	0.86	52	530	4207	5.20	66630	82.32
18	402	171	0.21	865	1.07	53	537	3410	4.21	70040	86.54
19	407	215	0.27	1080	1.33	54	544	2245	2.77	72285	89.31
20	411	350	0.43	1430	1.77	55	552	953	1.18	73238	90.49
21	415	406	0.50	1836	2.27	56	561	475	0.59	73713	91.07
22	419	523	0.65	2359	2.91	57	569	726	0.90	74439	91.97
23	422	564	0.70	2923	3.61	58	579	989	1.22	75428	93.19
24	426	598	0.74	3521	4.35	59	588	1230	1.52	76658	94.71
25	429	613	0.76	4134	5.11	**60**	**598**	**1407**	**1.74**	**78065**	**96.45**
26	433	604	0.75	4738	5.85	61	609	1129	1.39	79194	97.85
27	436	707	0.87	5445	6.73	62	620	475	0.59	79669	98.43
28	439	811	1.00	6256	7.73	63	632	45	0.06	79714	98.49
29	443	928	1.15	7184	8.88	64	643	80	0.10	79794	98.59
30	446	1083	1.34	8267	10.21	65	656	128	0.16	79922	98.75
31	449	1214	1.50	9481	11.71	66	669	206	0.25	80128	99.00
32	**452**	**1264**	**1.56**	**10745**	**13.28**	67	685	316	0.39	80444	99.39
33	455	1412	1.74	12157	15.02	68	700	315	0.39	80759	99.78
34	458	1611	1.99	13768	17.01	69	700	178	0.22	80937	100.00

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.31
Spring 2011 AIMS Frequency Distribution
Writing CRT High School Cohort 13 Prompt A

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	37	384	47	0.06	443	0.59
1	300	0	0.00	0	0.00	38	387	85	0.11	528	0.71
2	300	0	0.00	0	0.00	39	389	44	0.06	572	0.76
3	300	0	0.00	0	0.00	40	391	131	0.18	703	0.94
4	300	0	0.00	0	0.00	41	393	34	0.05	737	0.98
5	300	0	0.00	0	0.00	42	395	154	0.21	891	1.19
6	300	0	0.00	0	0.00	43	397	51	0.07	942	1.26
7	300	0	0.00	0	0.00	44	399	196	0.26	1138	1.52
8	300	0	0.00	0	0.00	45	401	59	0.08	1197	1.60
9	300	0	0.00	0	0.00	46	403	179	0.24	1376	1.84
10	300	0	0.00	0	0.00	47	405	86	0.11	1462	1.95
11	300	0	0.00	0	0.00	48	407	194	0.26	1656	2.21
12	300	0	0.00	0	0.00	49	409	107	0.14	1763	2.36
13	300	0	0.00	0	0.00	50	411	205	0.27	1968	2.63
14	300	0	0.00	0	0.00	51	413	179	0.24	2147	2.87
15	300	0	0.00	0	0.00	52	415	186	0.25	2333	3.12
16	300	3	0.00	3	0.00	53	417	183	0.24	2516	3.36
17	307	0	0.00	3	0.00	54	419	242	0.32	2758	3.68
18	317	3	0.00	6	0.01	55	421	203	0.27	2961	3.96
19	325	0	0.00	6	0.01	56	423	290	0.39	3251	4.34
20	331	9	0.01	15	0.02	57	425	229	0.31	3480	4.65
21	336	0	0.00	15	0.02	58	427	333	0.44	3813	5.09
22	341	15	0.02	30	0.04	59	429	214	0.29	4027	5.38
23	345	0	0.00	30	0.04	60	431	484	0.65	4511	6.03
24	349	27	0.04	57	0.08	**61**	**433**	**236**	**0.32**	**4747**	**6.34**
25	353	2	0.00	59	0.08	62	435	563	0.75	5310	7.09
26	356	33	0.04	92	0.12	63	437	230	0.31	5540	7.40
27	359	5	0.01	97	0.13	64	439	667	0.89	6207	8.29
28	362	35	0.05	132	0.18	65	441	267	0.36	6474	8.65
29	365	9	0.01	141	0.19	66	443	818	1.09	7292	9.74
30	368	41	0.05	182	0.24	67	445	289	0.39	7581	10.13
31	370	24	0.03	206	0.28	68	447	900	1.20	8481	11.33
32	373	24	0.03	230	0.31	69	449	342	0.46	8823	11.79
33	375	33	0.04	263	0.35	70	451	995	1.33	9818	13.12
34	377	47	0.06	310	0.41	71	453	392	0.52	10210	13.64
35	380	37	0.05	347	0.46	72	455	1132	1.51	11342	15.15
36	382	49	0.07	396	0.53	73	457	541	0.72	11883	15.88

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

(table continued)

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Table 8.1.1.31 (Continued)
Spring 2012 AIMS Frequency Distribution
Writing CRT High School Cohort 14 Prompt A

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
74	459	1178	1.57	13061	17.45	107	541	1451	1.94	62674	83.73
75	461	619	0.83	13680	18.28	108	544	730	0.98	63404	84.71
76	463	1139	1.52	14819	19.80	109	548	1382	1.85	64786	86.56
77	465	837	1.12	15656	20.92	110	551	511	0.68	65297	87.24
78	467	1162	1.55	16818	22.47	111	554	1159	1.55	66456	88.79
79	469	972	1.30	17790	23.77	112	558	610	0.81	67066	89.60
80	471	1157	1.55	18947	25.31	113	561	831	1.11	67897	90.71
81	473	1173	1.57	20120	26.88	114	564	812	1.08	68709	91.80
82	475	1109	1.48	21229	28.36	115	568	518	0.69	69227	92.49
83	477	1264	1.69	22493	30.05	116	571	910	1.22	70137	93.70
84	**480**	**1260**	**1.68**	**23753**	**31.73**	117	575	195	0.26	70332	93.97
85	482	1317	1.76	25070	33.49	118	579	896	1.20	71228	95.16
86	484	1472	1.97	26542	35.46	119	582	150	0.20	71378	95.36
87	486	1380	1.84	27922	37.30	120	586	742	0.99	72120	96.35
88	489	1689	2.26	29611	39.56	**121**	**590**	**214**	**0.29**	**72334**	**96.64**
89	491	1227	1.64	30838	41.20	122	594	399	0.53	72733	97.17
90	493	2118	2.83	32956	44.03	123	599	308	0.41	73041	97.58
91	496	1049	1.40	34005	45.43	124	603	129	0.17	73170	97.76
92	498	2667	3.56	36672	48.99	125	608	363	0.48	73533	98.24
93	501	904	1.21	37576	50.20	126	612	37	0.05	73570	98.29
94	503	3109	4.15	40685	54.36	127	618	362	0.48	73932	98.77
95	506	762	1.02	41447	55.37	128	623	83	0.11	74015	98.89
96	508	3334	4.45	44781	59.83	129	629	214	0.29	74229	99.17
97	511	677	0.90	45458	60.73	130	635	119	0.16	74348	99.33
98	514	3248	4.34	48706	65.07	131	642	65	0.09	74413	99.42
99	517	735	0.98	49441	66.05	132	649	148	0.20	74561	99.62
100	520	3033	4.05	52474	70.11	133	658	0	0.00	74561	99.62
101	523	787	1.05	53261	71.16	134	668	160	0.21	74721	99.83
102	526	2546	3.40	55807	74.56	135	680	0	0.00	74721	99.83
103	529	1066	1.42	56873	75.98	136	697	94	0.13	74815	99.95
104	532	1891	2.53	58764	78.51	137	700	0	0.00	74815	99.95
105	535	1267	1.69	60031	80.20	138	700	34	0.05	74849	100.00
106	538	1192	1.59	61223	81.80						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.32
Spring 2012 AIMS Frequency Distribution
Writing CRT High School Cohort 14 Prompt T

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	37	391	2	0.12	29	1.80
1	300	0	0.00	0	0.00	38	393	5	0.31	34	2.11
2	300	0	0.00	0	0.00	39	396	3	0.19	37	2.30
3	300	0	0.00	0	0.00	40	398	7	0.43	44	2.73
4	300	0	0.00	0	0.00	41	400	2	0.12	46	2.86
5	300	0	0.00	0	0.00	42	403	17	1.06	63	3.91
6	300	0	0.00	0	0.00	43	405	2	0.12	65	4.04
7	300	0	0.00	0	0.00	44	407	7	0.43	72	4.47
8	300	0	0.00	0	0.00	45	409	6	0.37	78	4.84
9	300	0	0.00	0	0.00	46	411	13	0.81	91	5.65
10	300	0	0.00	0	0.00	47	413	2	0.12	93	5.78
11	300	0	0.00	0	0.00	48	415	11	0.68	104	6.46
12	300	0	0.00	0	0.00	49	417	5	0.31	109	6.77
13	300	0	0.00	0	0.00	50	419	13	0.81	122	7.58
14	300	0	0.00	0	0.00	51	421	13	0.81	135	8.39
15	300	0	0.00	0	0.00	52	423	8	0.50	143	8.88
16	300	0	0.00	0	0.00	53	425	6	0.37	149	9.25
17	311	0	0.00	0	0.00	54	427	19	1.18	168	10.43
18	321	0	0.00	0	0.00	55	429	14	0.87	182	11.30
19	329	0	0.00	0	0.00	56	431	14	0.87	196	12.17
20	335	1	0.06	1	0.06	**57**	**433**	**8**	**0.50**	**204**	**12.67**
21	341	0	0.00	1	0.06	58	435	23	1.43	227	14.10
22	345	2	0.12	3	0.19	59	437	7	0.43	234	14.53
23	350	0	0.00	3	0.19	60	439	19	1.18	253	15.71
24	354	2	0.12	5	0.31	61	440	11	0.68	264	16.40
25	357	0	0.00	5	0.31	62	442	17	1.06	281	17.45
26	361	0	0.00	5	0.31	63	444	15	0.93	296	18.39
27	364	0	0.00	5	0.31	64	446	23	1.43	319	19.81
28	367	2	0.12	7	0.43	65	448	12	0.75	331	20.56
29	370	0	0.00	7	0.43	66	450	36	2.24	367	22.80
30	373	5	0.31	12	0.75	67	452	14	0.87	381	23.66
31	376	0	0.00	12	0.75	68	454	35	2.17	416	25.84
32	379	4	0.25	16	0.99	69	455	21	1.30	437	27.14
33	381	2	0.12	18	1.12	70	457	21	1.30	458	28.45
34	384	2	0.12	20	1.24	71	459	17	1.06	475	29.50
35	386	5	0.31	25	1.55	72	461	37	2.30	512	31.80
36	389	2	0.12	27	1.68	73	463	19	1.18	531	32.98

Note: Freq. = Frequency; Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

(table continued)

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Table 8.1.1.32 (Continued)
Spring 2011 AIMS Frequency Distribution
Writing CRT High School Cohort 13 Prompt T

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
74	465	37	2.30	568	35.28	107	543	8	0.50	1469	91.24
75	467	16	0.99	584	36.27	108	546	7	0.43	1476	91.68
76	469	41	2.55	625	38.82	109	549	12	0.75	1488	92.42
77	471	22	1.37	647	40.19	110	552	6	0.37	1494	92.80
78	473	37	2.30	684	42.48	111	555	19	1.18	1513	93.98
79	475	22	1.37	706	43.85	112	558	6	0.37	1519	94.35
80	477	35	2.17	741	46.02	113	561	16	0.99	1535	95.34
81	479	13	0.81	754	46.83	114	564	13	0.81	1548	96.15
82	**481**	**28**	**1.74**	**782**	**48.57**	115	567	6	0.37	1554	96.52
83	483	32	1.99	814	50.56	116	570	9	0.56	1563	97.08
84	485	34	2.11	848	52.67	117	573	8	0.50	1571	97.58
85	487	33	2.05	881	54.72	118	576	6	0.37	1577	97.95
86	489	41	2.55	922	57.27	119	579	4	0.25	1581	98.20
87	491	36	2.24	958	59.50	120	582	2	0.12	1583	98.32
88	493	37	2.30	995	61.80	121	585	2	0.12	1585	98.45
89	496	26	1.61	1021	63.42	**122**	**588**	**4**	**0.25**	**1589**	**98.70**
90	498	29	1.80	1050	65.22	123	592	2	0.12	1591	98.82
91	500	9	0.56	1059	65.78	124	595	1	0.06	1592	98.88
92	502	50	3.11	1109	68.88	125	599	5	0.31	1597	99.19
93	505	20	1.24	1129	70.12	126	603	1	0.06	1598	99.25
94	507	36	2.24	1165	72.36	127	607	1	0.06	1599	99.32
95	510	15	0.93	1180	73.29	128	612	1	0.06	1600	99.38
96	512	53	3.29	1233	76.58	129	617	3	0.19	1603	99.57
97	515	11	0.68	1244	77.27	130	622	3	0.19	1606	99.75
98	518	50	3.11	1294	80.37	131	628	1	0.06	1607	99.81
99	520	9	0.56	1303	80.93	132	635	2	0.12	1609	99.94
100	523	34	2.11	1337	83.04	133	643	0	0.00	1609	99.94
101	526	13	0.81	1350	83.85	134	653	1	0.06	1610	100.00
102	529	30	1.86	1380	85.71	135	665	0	0.00	1610	100.00
103	531	14	0.87	1394	86.58	136	682	0	0.00	1610	100.00
104	534	29	1.80	1423	88.39	137	700	0	0.00	1610	100.00
105	537	21	1.30	1444	89.69	138	700	0	0.00	1610	100.00
106	540	17	1.06	1461	90.75						

Note: Freq. = Frequency; Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.33
Spring 2012 AIMS Frequency Distribution
Writing CRT High School Cohort 13 Prompt A

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	37	384	23	0.14	216	1.35
1	300	0	0.00	0	0.00	38	387	53	0.33	269	1.68
2	300	0	0.00	0	0.00	39	389	22	0.14	291	1.82
3	300	0	0.00	0	0.00	40	391	66	0.41	357	2.23
4	300	0	0.00	0	0.00	41	393	25	0.16	382	2.39
5	300	0	0.00	0	0.00	42	395	97	0.61	479	2.99
6	300	0	0.00	0	0.00	43	397	22	0.14	501	3.13
7	300	0	0.00	0	0.00	44	399	115	0.72	616	3.85
8	300	0	0.00	0	0.00	45	401	32	0.20	648	4.05
9	300	0	0.00	0	0.00	46	403	96	0.60	744	4.65
10	300	0	0.00	0	0.00	47	405	58	0.36	802	5.01
11	300	0	0.00	0	0.00	48	407	101	0.63	903	5.64
12	300	0	0.00	0	0.00	49	409	64	0.40	967	6.04
13	300	0	0.00	0	0.00	50	411	91	0.57	1058	6.61
14	300	0	0.00	0	0.00	51	413	83	0.52	1141	7.13
15	300	0	0.00	0	0.00	52	415	118	0.74	1259	7.87
16	300	0	0.00	0	0.00	53	417	125	0.78	1384	8.65
17	307	0	0.00	0	0.00	54	419	131	0.82	1515	9.47
18	317	0	0.00	0	0.00	55	421	131	0.82	1646	10.29
19	325	0	0.00	0	0.00	56	423	167	1.04	1813	11.33
20	331	6	0.04	6	0.04	57	425	120	0.75	1933	12.08
21	336	0	0.00	6	0.04	58	427	183	1.14	2116	13.22
22	341	3	0.02	9	0.06	59	429	124	0.77	2240	14.00
23	345	1	0.01	10	0.06	60	431	255	1.59	2495	15.59
24	349	7	0.04	17	0.11	**61**	**433**	**134**	**0.84**	**2629**	**16.43**
25	353	1	0.01	18	0.11	62	435	265	1.66	2894	18.08
26	356	12	0.07	30	0.19	63	437	126	0.79	3020	18.87
27	359	2	0.01	32	0.20	64	439	328	2.05	3348	20.92
28	362	21	0.13	53	0.33	65	441	128	0.80	3476	21.72
29	365	7	0.04	60	0.37	66	443	398	2.49	3874	24.21
30	368	19	0.12	79	0.49	67	445	151	0.94	4025	25.15
31	370	18	0.11	97	0.61	68	447	409	2.56	4434	27.71
32	373	24	0.15	121	0.76	69	449	161	1.01	4595	28.71
33	375	18	0.11	139	0.87	70	451	455	2.84	5050	31.56
34	377	13	0.08	152	0.95	71	453	220	1.37	5270	32.93
35	380	15	0.09	167	1.04	72	455	468	2.92	5738	35.86
36	382	26	0.16	193	1.21	73	457	213	1.33	5951	37.19

Note: Freq. = Frequency; Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

(table continued)

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Table 8.1.1.33 (Continued)
Spring 2012 AIMS Frequency Distribution
Writing CRT High School Cohort 13 Prompt A

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
74	459	484	3.02	6435	40.21	107	541	126	0.79	14283	89.25
75	461	256	1.60	6691	41.81	108	544	87	0.54	14370	89.80
76	463	460	2.87	7151	44.69	109	548	167	1.04	14537	90.84
77	465	325	2.03	7476	46.72	110	551	51	0.32	14588	91.16
78	467	368	2.30	7844	49.02	111	554	150	0.94	14738	92.10
79	469	333	2.08	8177	51.10	112	558	66	0.41	14804	92.51
80	471	365	2.28	8542	53.38	113	561	108	0.67	14912	93.18
81	473	335	2.09	8877	55.47	114	564	87	0.54	14999	93.73
82	475	326	2.04	9203	57.51	115	568	81	0.51	15080	94.23
83	477	327	2.04	9530	59.55	116	571	128	0.80	15208	95.03
84	**480**	**305**	**1.91**	**9835**	**61.46**	117	575	30	0.19	15238	95.22
85	482	295	1.84	10130	63.30	118	579	144	0.90	15382	96.12
86	484	310	1.94	10440	65.24	119	582	14	0.09	15396	96.21
87	486	264	1.65	10704	66.89	120	586	125	0.78	15521	96.99
88	489	315	1.97	11019	68.86	**121**	**590**	**32**	**0.20**	**15553**	**97.19**
89	491	197	1.23	11216	70.09	122	594	94	0.59	15647	97.78
90	493	375	2.34	11591	72.43	123	599	49	0.31	15696	98.08
91	496	134	0.84	11725	73.27	124	603	38	0.24	15734	98.32
92	498	360	2.25	12085	75.52	125	608	67	0.42	15801	98.74
93	501	97	0.61	12182	76.12	126	612	8	0.05	15809	98.79
94	503	305	1.91	12487	78.03	127	618	56	0.35	15865	99.14
95	506	70	0.44	12557	78.47	128	623	15	0.09	15880	99.23
96	508	289	1.81	12846	80.27	129	629	40	0.25	15920	99.48
97	511	70	0.44	12916	80.71	130	635	8	0.05	15928	99.53
98	514	236	1.47	13152	82.18	131	642	20	0.12	15948	99.66
99	517	68	0.42	13220	82.61	132	649	19	0.12	15967	99.78
100	520	229	1.43	13449	84.04	133	658	0	0.00	15967	99.78
101	523	69	0.43	13518	84.47	134	668	17	0.11	15984	99.88
102	526	188	1.17	13706	85.65	135	680	0	0.00	15984	99.88
103	529	74	0.46	13780	86.11	136	697	13	0.08	15997	99.96
104	532	152	0.95	13932	87.06	137	700	0	0.00	15997	99.96
105	535	100	0.62	14032	87.68	138	700	6	0.04	16003	100.00
106	538	125	0.78	14157	88.46						

Note: Freq. = Frequency; Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.34
Spring 2012 AIMS Frequency Distribution
Writing CRT High School Cohort 13 Prompt T

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	37	391	1	0.09	34	3.17
1	300	0	0.00	0	0.00	38	393	4	0.37	38	3.54
2	300	0	0.00	0	0.00	39	396	1	0.09	39	3.64
3	300	0	0.00	0	0.00	40	398	7	0.65	46	4.29
4	300	0	0.00	0	0.00	41	400	1	0.09	47	4.38
5	300	0	0.00	0	0.00	42	403	5	0.47	52	4.85
6	300	0	0.00	0	0.00	43	405	5	0.47	57	5.32
7	300	0	0.00	0	0.00	44	407	9	0.84	66	6.16
8	300	0	0.00	0	0.00	45	409	2	0.19	68	6.34
9	300	0	0.00	0	0.00	46	411	13	1.21	81	7.56
10	300	0	0.00	0	0.00	47	413	6	0.56	87	8.12
11	300	0	0.00	0	0.00	48	415	18	1.68	105	9.79
12	300	0	0.00	0	0.00	49	417	3	0.28	108	10.07
13	300	0	0.00	0	0.00	50	419	11	1.03	119	11.10
14	300	0	0.00	0	0.00	51	421	2	0.19	121	11.29
15	300	0	0.00	0	0.00	52	423	12	1.12	133	12.41
16	300	0	0.00	0	0.00	53	425	10	0.93	143	13.34
17	311	0	0.00	0	0.00	54	427	16	1.49	159	14.83
18	321	0	0.00	0	0.00	55	429	11	1.03	170	15.86
19	329	0	0.00	0	0.00	56	431	15	1.40	185	17.26
20	335	0	0.00	0	0.00	**57**	**433**	**8**	**0.75**	**193**	**18.00**
21	341	0	0.00	0	0.00	58	435	15	1.40	208	19.40
22	345	0	0.00	0	0.00	59	437	16	1.49	224	20.90
23	350	0	0.00	0	0.00	60	439	23	2.15	247	23.04
24	354	3	0.28	3	0.28	61	440	12	1.12	259	24.16
25	357	0	0.00	3	0.28	62	442	23	2.15	282	26.31
26	361	4	0.37	7	0.65	63	444	13	1.21	295	27.52
27	364	3	0.28	10	0.93	64	446	24	2.24	319	29.76
28	367	6	0.56	16	1.49	65	448	11	1.03	330	30.78
29	370	0	0.00	16	1.49	66	450	26	2.43	356	33.21
30	373	1	0.09	17	1.59	67	452	16	1.49	372	34.70
31	376	1	0.09	18	1.68	68	454	32	2.99	404	37.69
32	379	3	0.28	21	1.96	69	455	17	1.59	421	39.27
33	381	3	0.28	24	2.24	70	457	28	2.61	449	41.88
34	384	2	0.19	26	2.43	71	459	12	1.12	461	43.00
35	386	2	0.19	28	2.61	72	461	39	3.64	500	46.64
36	389	5	0.47	33	3.08	73	463	13	1.21	513	47.85

Note: Freq. = Frequency; Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

(table continued)

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Table 8.1.1.34 (Continued)
Spring 2012 AIMS Frequency Distribution
Writing CRT High School Cohort 13 Prompt T

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
74	465	38	3.54	551	51.40	107	543	2	0.19	1022	95.34
75	467	17	1.59	568	52.99	108	546	4	0.37	1026	95.71
76	469	34	3.17	602	56.16	109	549	8	0.75	1034	96.46
77	471	17	1.59	619	57.74	110	552	2	0.19	1036	96.64
78	473	30	2.80	649	60.54	111	555	3	0.28	1039	96.92
79	475	12	1.12	661	61.66	112	558	2	0.19	1041	97.11
80	477	34	3.17	695	64.83	113	561	2	0.19	1043	97.29
81	479	18	1.68	713	66.51	114	564	0	0.00	1043	97.29
82	**481**	**17**	**1.59**	**730**	**68.10**	115	567	3	0.28	1046	97.57
83	483	16	1.49	746	69.59	116	570	1	0.09	1047	97.67
84	485	24	2.24	770	71.83	117	573	0	0.00	1047	97.67
85	487	20	1.87	790	73.69	118	576	4	0.37	1051	98.04
86	489	34	3.17	824	76.87	119	579	2	0.19	1053	98.23
87	491	12	1.12	836	77.99	120	582	2	0.19	1055	98.41
88	493	22	2.05	858	80.04	121	585	3	0.28	1058	98.69
89	496	11	1.03	869	81.06	**122**	**588**	**2**	**0.19**	**1060**	**98.88**
90	498	20	1.87	889	82.93	123	592	2	0.19	1062	99.07
91	500	12	1.12	901	84.05	124	595	1	0.09	1063	99.16
92	502	18	1.68	919	85.73	125	599	1	0.09	1064	99.25
93	505	7	0.65	926	86.38	126	603	0	0.00	1064	99.25
94	507	21	1.96	947	88.34	127	607	0	0.00	1064	99.25
95	510	3	0.28	950	88.62	128	612	0	0.00	1064	99.25
96	512	14	1.31	964	89.93	129	617	4	0.37	1068	99.63
97	515	6	0.56	970	90.49	130	622	0	0.00	1068	99.63
98	518	11	1.03	981	91.51	131	628	0	0.00	1068	99.63
99	520	2	0.19	983	91.70	132	635	2	0.19	1070	99.81
100	523	15	1.40	998	93.10	133	643	0	0.00	1070	99.81
101	526	1	0.09	999	93.19	134	653	2	0.19	1072	100.00
102	529	6	0.56	1005	93.75	135	665	0	0.00	1072	100.00
103	531	4	0.37	1009	94.12	136	682	0	0.00	1072	100.00
104	534	5	0.47	1014	94.59	137	700	0	0.00	1072	100.00
105	537	3	0.28	1017	94.87	138	700	0	0.00	1072	100.00
106	540	3	0.28	1020	95.15						

Note: Freq. = Frequency; Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.35
Spring 2012 AIMS Frequency Distribution
Writing CRT High School Cohort 12 Prompt A

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	37	384	13	0.20	168	2.54
1	300	0	0.00	0	0.00	38	387	34	0.51	202	3.05
2	300	0	0.00	0	0.00	39	389	6	0.09	208	3.14
3	300	0	0.00	0	0.00	40	391	60	0.91	268	4.04
4	300	0	0.00	0	0.00	41	393	26	0.39	294	4.44
5	300	0	0.00	0	0.00	42	395	70	1.06	364	5.49
6	300	0	0.00	0	0.00	43	397	15	0.23	379	5.72
7	300	0	0.00	0	0.00	44	399	65	0.98	444	6.70
8	300	0	0.00	0	0.00	45	401	21	0.32	465	7.02
9	300	0	0.00	0	0.00	46	403	71	1.07	536	8.09
10	300	0	0.00	0	0.00	47	405	39	0.59	575	8.68
11	300	0	0.00	0	0.00	48	407	72	1.09	647	9.76
12	300	0	0.00	0	0.00	49	409	61	0.92	708	10.69
13	300	0	0.00	0	0.00	50	411	68	1.03	776	11.71
14	300	0	0.00	0	0.00	51	413	61	0.92	837	12.63
15	300	0	0.00	0	0.00	52	415	65	0.98	902	13.61
16	300	0	0.00	0	0.00	53	417	85	1.28	987	14.90
17	307	0	0.00	0	0.00	54	419	98	1.48	1085	16.37
18	317	1	0.02	1	0.02	55	421	62	0.94	1147	17.31
19	325	0	0.00	1	0.02	56	423	101	1.52	1248	18.83
20	331	1	0.02	2	0.03	57	425	92	1.39	1340	20.22
21	336	0	0.00	2	0.03	58	427	138	2.08	1478	22.31
22	341	4	0.06	6	0.09	59	429	86	1.30	1564	23.60
23	345	0	0.00	6	0.09	60	431	161	2.43	1725	26.03
24	349	9	0.14	15	0.23	**61**	**433**	**68**	**1.03**	**1793**	**27.06**
25	353	3	0.05	18	0.27	62	435	166	2.51	1959	29.57
26	356	10	0.15	28	0.42	63	437	71	1.07	2030	30.64
27	359	2	0.03	30	0.45	64	439	203	3.06	2233	33.70
28	362	14	0.21	44	0.66	65	441	94	1.42	2327	35.12
29	365	8	0.12	52	0.78	66	443	226	3.41	2553	38.53
30	368	14	0.21	66	1.00	67	445	87	1.31	2640	39.84
31	370	13	0.20	79	1.19	68	447	282	4.26	2922	44.10
32	373	13	0.20	92	1.39	69	449	79	1.19	3001	45.29
33	375	12	0.18	104	1.57	70	451	266	4.01	3267	49.31
34	377	12	0.18	116	1.75	71	453	102	1.54	3369	50.85
35	380	16	0.24	132	1.99	72	455	261	3.94	3630	54.78
36	382	23	0.35	155	2.34	73	457	109	1.65	3739	56.43

Note: Freq. = Frequency; Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

(table continued)

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Table 8.1.1.35 (Continued)
Spring 2012 AIMS Frequency Distribution
Writing CRT High School Cohort 12 Prompt A

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
74	459	217	3.27	3956	59.70	107	541	9	0.14	6500	98.10
75	461	121	1.83	4077	61.53	108	544	8	0.12	6508	98.22
76	463	195	2.94	4272	64.47	109	548	10	0.15	6518	98.37
77	465	131	1.98	4403	66.45	110	551	4	0.06	6522	98.43
78	467	159	2.40	4562	68.85	111	554	13	0.20	6535	98.63
79	469	144	2.17	4706	71.02	112	558	3	0.05	6538	98.67
80	471	158	2.38	4864	73.41	113	561	6	0.09	6544	98.76
81	473	131	1.98	4995	75.38	114	564	8	0.12	6552	98.88
82	475	110	1.66	5105	77.04	115	568	4	0.06	6556	98.94
83	477	122	1.84	5227	78.89	116	571	9	0.14	6565	99.08
84	**480**	**108**	**1.63**	**5335**	**80.52**	117	575	3	0.05	6568	99.12
85	482	105	1.58	5440	82.10	118	579	16	0.24	6584	99.37
86	484	105	1.58	5545	83.69	119	582	4	0.06	6588	99.43
87	486	91	1.37	5636	85.06	120	586	10	0.15	6598	99.58
88	489	103	1.55	5739	86.61	**121**	**590**	**5**	**0.08**	**6603**	**99.65**
89	491	65	0.98	5804	87.59	122	594	3	0.05	6606	99.70
90	493	115	1.74	5919	89.33	123	599	2	0.03	6608	99.73
91	496	38	0.57	5957	89.90	124	603	1	0.02	6609	99.74
92	498	89	1.34	6046	91.25	125	608	6	0.09	6615	99.83
93	501	29	0.44	6075	91.68	126	612	0	0.00	6615	99.83
94	503	83	1.25	6158	92.94	127	618	6	0.09	6621	99.92
95	506	11	0.17	6169	93.10	128	623	0	0.00	6621	99.92
96	508	82	1.24	6251	94.34	129	629	1	0.02	6622	99.94
97	511	18	0.27	6269	94.61	130	635	0	0.00	6622	99.94
98	514	50	0.75	6319	95.37	131	642	0	0.00	6622	99.94
99	517	15	0.23	6334	95.59	132	649	0	0.00	6622	99.94
100	520	61	0.92	6395	96.51	133	658	0	0.00	6622	99.94
101	523	10	0.15	6405	96.66	134	668	4	0.06	6626	100.00
102	526	26	0.39	6431	97.06	135	680	0	0.00	6626	100.00
103	529	18	0.27	6449	97.33	136	697	0	0.00	6626	100.00
104	532	17	0.26	6466	97.59	137	700	0	0.00	6626	100.00
105	535	13	0.20	6479	97.78	138	700	0	0.00	6626	100.00
106	538	12	0.18	6491	97.96						

Note: Freq. = Frequency; Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.36
Spring 2012 AIMS Frequency Distribution
Writing CRT High School Cohort 12 Prompt T

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	300	0	0.00	0	0.00	37	391	1	0.24	17	4.15
1	300	0	0.00	0	0.00	38	393	0	0.00	17	4.15
2	300	0	0.00	0	0.00	39	396	3	0.73	20	4.88
3	300	0	0.00	0	0.00	40	398	4	0.98	24	5.85
4	300	0	0.00	0	0.00	41	400	2	0.49	26	6.34
5	300	0	0.00	0	0.00	42	403	8	1.95	34	8.29
6	300	0	0.00	0	0.00	43	405	0	0.00	34	8.29
7	300	0	0.00	0	0.00	44	407	6	1.46	40	9.76
8	300	0	0.00	0	0.00	45	409	3	0.73	43	10.49
9	300	0	0.00	0	0.00	46	411	11	2.68	54	13.17
10	300	0	0.00	0	0.00	47	413	4	0.98	58	14.15
11	300	0	0.00	0	0.00	48	415	5	1.22	63	15.37
12	300	0	0.00	0	0.00	49	417	10	2.44	73	17.80
13	300	0	0.00	0	0.00	50	419	9	2.20	82	20.00
14	300	0	0.00	0	0.00	51	421	9	2.20	91	22.20
15	300	0	0.00	0	0.00	52	423	7	1.71	98	23.90
16	300	0	0.00	0	0.00	53	425	5	1.22	103	25.12
17	311	0	0.00	0	0.00	54	427	9	2.20	112	27.32
18	321	0	0.00	0	0.00	55	429	8	1.95	120	29.27
19	329	0	0.00	0	0.00	56	431	7	1.71	127	30.98
20	335	0	0.00	0	0.00	**57**	**433**	**5**	**1.22**	**132**	**32.20**
21	341	0	0.00	0	0.00	58	435	6	1.46	138	33.66
22	345	2	0.49	2	0.49	59	437	3	0.73	141	34.39
23	350	0	0.00	2	0.49	60	439	11	2.68	152	37.07
24	354	1	0.24	3	0.73	61	440	8	1.95	160	39.02
25	357	0	0.00	3	0.73	62	442	7	1.71	167	40.73
26	361	0	0.00	3	0.73	63	444	4	0.98	171	41.71
27	364	0	0.00	3	0.73	64	446	10	2.44	181	44.15
28	367	0	0.00	3	0.73	65	448	4	0.98	185	45.12
29	370	0	0.00	3	0.73	66	450	11	2.68	196	47.80
30	373	3	0.73	6	1.46	67	452	4	0.98	200	48.78
31	376	1	0.24	7	1.71	68	454	11	2.68	211	51.46
32	379	3	0.73	10	2.44	69	455	6	1.46	217	52.93
33	381	2	0.49	12	2.93	70	457	11	2.68	228	55.61
34	384	1	0.24	13	3.17	71	459	5	1.22	233	56.83
35	386	0	0.00	13	3.17	72	461	6	1.46	239	58.29
36	389	3	0.73	16	3.90	73	463	12	2.93	251	61.22

Note: Freq. = Frequency; Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

(table continued)

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Table 8.1.1.36 (Continued)
Spring 2012 AIMS Frequency Distribution
Writing CRT High School Cohort 12 Prompt T

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
74	465	13	3.17	264	64.39	107	543	1	0.24	404	98.54
75	467	6	1.46	270	65.85	108	546	0	0.00	404	98.54
76	469	9	2.20	279	68.05	109	549	1	0.24	405	98.78
77	471	2	0.49	281	68.54	110	552	0	0.00	405	98.78
78	473	13	3.17	294	71.71	111	555	0	0.00	405	98.78
79	475	4	0.98	298	72.68	112	558	0	0.00	405	98.78
80	477	8	1.95	306	74.63	113	561	0	0.00	405	98.78
81	479	8	1.95	314	76.59	114	564	0	0.00	405	98.78
82	**481**	**10**	**2.44**	**324**	**79.02**	115	567	1	0.24	406	99.02
83	483	11	2.68	335	81.71	116	570	1	0.24	407	99.27
84	485	5	1.22	340	82.93	117	573	0	0.00	407	99.27
85	487	5	1.22	345	84.15	118	576	1	0.24	408	99.51
86	489	2	0.49	347	84.63	119	579	0	0.00	408	99.51
87	491	7	1.71	354	86.34	120	582	1	0.24	409	99.76
88	493	3	0.73	357	87.07	121	585	0	0.00	409	99.76
89	496	5	1.22	362	88.29	**122**	**588**	**0**	**0.00**	**409**	**99.76**
90	498	4	0.98	366	89.27	123	592	1	0.24	410	100.00
91	500	3	0.73	369	90.00	124	595	0	0.00	410	100.00
92	502	4	0.98	373	90.98	125	599	0	0.00	410	100.00
93	505	3	0.73	376	91.71	126	603	0	0.00	410	100.00
94	507	6	1.46	382	93.17	127	607	0	0.00	410	100.00
95	510	2	0.49	384	93.66	128	612	0	0.00	410	100.00
96	512	5	1.22	389	94.88	129	617	0	0.00	410	100.00
97	515	0	0.00	389	94.88	130	622	0	0.00	410	100.00
98	518	4	0.98	393	95.85	131	628	0	0.00	410	100.00
99	520	1	0.24	394	96.10	132	635	0	0.00	410	100.00
100	523	2	0.49	396	96.59	133	643	0	0.00	410	100.00
101	526	3	0.73	399	97.32	134	653	0	0.00	410	100.00
102	529	1	0.24	400	97.56	135	665	0	0.00	410	100.00
103	531	0	0.00	400	97.56	136	682	0	0.00	410	100.00
104	534	2	0.49	402	98.05	137	700	0	0.00	410	100.00
105	537	1	0.24	403	98.29	138	700	0	0.00	410	100.00
106	540	0	0.00	403	98.29						

Note: Freq. = Frequency; Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.37
Spring 2012 AIMS Frequency Distribution
Science CRT Grade 4

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	200	0	0.00	0	0.00	28	469	1850	2.26	16915	20.66
1	247	0	0.00	0	0.00	29	473	1956	2.39	18871	23.04
2	283	0	0.00	0	0.00	30	478	2177	2.66	21048	25.70
3	305	0	0.00	0	0.00	31	482	2182	2.66	23230	28.37
4	322	0	0.00	0	0.00	32	486	2268	2.77	25498	31.14
5	335	1	0.00	1	0.00	33	491	2333	2.85	27831	33.99
6	346	3	0.00	4	0.00	34	495	2566	3.13	30397	37.12
7	356	14	0.02	18	0.02	**35**	**500**	**2523**	**3.08**	**32920**	**40.20**
8	365	24	0.03	42	0.05	36	504	2646	3.23	35566	43.43
9	372	57	0.07	99	0.12	37	509	2669	3.26	38235	46.69
10	380	78	0.10	177	0.22	38	514	2741	3.35	40976	50.04
11	386	136	0.17	313	0.38	39	519	2881	3.52	43857	53.55
12	393	181	0.22	494	0.60	40	524	2890	3.53	46747	57.08
13	399	250	0.31	744	0.91	41	529	3024	3.69	49771	60.78
14	404	343	0.42	1087	1.33	42	535	3142	3.84	52913	64.61
15	410	440	0.54	1527	1.86	43	541	3161	3.86	56074	68.47
16	415	517	0.63	2044	2.50	**44**	**547**	**3254**	**3.97**	**59328**	**72.45**
17	420	672	0.82	2716	3.32	45	554	3196	3.90	62524	76.35
18	425	753	0.92	3469	4.24	46	561	3156	3.85	65680	80.20
19	430	875	1.07	4344	5.30	47	569	3205	3.91	68885	84.12
20	434	1001	1.22	5345	6.53	48	579	2888	3.53	71773	87.64
21	439	1039	1.27	6384	7.80	49	589	2836	3.46	74609	91.11
22	443	1131	1.38	7515	9.18	50	601	2444	2.98	77053	94.09
23	448	1299	1.59	8814	10.76	51	617	2129	2.60	79182	96.69
24	452	1344	1.64	10158	12.40	52	638	1527	1.86	80709	98.56
25	456	1506	1.84	11664	14.24	53	674	870	1.06	81579	99.62
26	461	1597	1.95	13261	16.19	54	800	313	0.38	81892	100.00
27	**465**	**1804**	**2.20**	**15065**	**18.40**						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.38
Spring 2012 AIMS Frequency Distribution
Science CRT Grade 8

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	200	0	0.00	0	0.00	**30**	**476**	**1691**	**2.11**	**15977**	**19.97**
1	257	0	0.00	0	0.00	31	479	1808	2.26	17785	22.23
2	292	0	0.00	0	0.00	32	483	1892	2.36	19677	24.59
3	313	0	0.00	0	0.00	33	487	1983	2.48	21660	27.07
4	329	0	0.00	0	0.00	34	491	2069	2.59	23729	29.65
5	342	0	0.00	0	0.00	35	495	2243	2.80	25972	32.46
6	352	4	0.00	4	0.00	**36**	**500**	**2357**	**2.95**	**28329**	**35.40**
7	361	8	0.01	12	0.01	37	504	2503	3.13	30832	38.53
8	370	17	0.02	29	0.04	38	508	2484	3.10	33316	41.64
9	377	18	0.02	47	0.06	39	512	2697	3.37	36013	45.01
10	384	53	0.07	100	0.12	40	517	2876	3.59	38889	48.60
11	390	97	0.12	197	0.25	41	521	3031	3.79	41920	52.39
12	396	117	0.15	314	0.39	42	526	3187	3.98	45107	56.37
13	402	156	0.19	470	0.59	43	531	3246	4.06	48353	60.43
14	407	248	0.31	718	0.90	**44**	**536**	**3308**	**4.13**	**51661**	**64.56**
15	412	285	0.36	1003	1.25	45	541	3421	4.28	55082	68.84
16	417	360	0.45	1363	1.70	46	547	3434	4.29	58516	73.13
17	422	448	0.56	1811	2.26	47	553	3419	4.27	61935	77.40
18	426	563	0.70	2374	2.97	48	559	3245	4.06	65180	81.46
19	431	668	0.83	3042	3.80	49	566	3150	3.94	68330	85.39
20	435	776	0.97	3818	4.77	50	573	2954	3.69	71284	89.08
21	439	774	0.97	4592	5.74	51	581	2633	3.29	73917	92.37
22	444	822	1.03	5414	6.77	52	591	2115	2.64	76032	95.02
23	448	954	1.19	6368	7.96	53	601	1717	2.15	77749	97.16
24	452	1112	1.39	7480	9.35	54	614	1164	1.45	78913	98.62
25	456	1109	1.39	8589	10.73	55	629	703	0.88	79616	99.50
26	460	1220	1.52	9809	12.26	56	651	288	0.36	79904	99.86
27	464	1381	1.73	11190	13.98	57	686	96	0.12	80000	99.98
28	468	1457	1.82	12647	15.80	58	800	19	0.02	80019	100.00
29	472	1639	2.05	14286	17.85						

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.39
Spring 2012 AIMS Frequency Distribution
Science CRT High School Cohort 14

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	200	1	0.00	1	0.00	33	448	891	1.67	15747	29.52
1	214	0	0.00	1	0.00	34	452	882	1.65	16629	31.17
2	252	0	0.00	1	0.00	35	456	967	1.81	17596	32.99
3	274	0	0.00	1	0.00	36	460	1003	1.88	18599	34.87
4	291	0	0.00	1	0.00	37	463	1058	1.98	19657	36.85
5	304	2	0.00	3	0.01	38	467	1073	2.01	20730	38.86
6	315	3	0.01	6	0.01	39	471	1170	2.19	21900	41.05
7	324	9	0.02	15	0.03	**40**	**475**	**1154**	**2.16**	**23054**	**43.22**
8	332	10	0.02	25	0.05	41	479	1248	2.34	24302	45.56
9	340	23	0.04	48	0.09	42	483	1286	2.41	25588	47.97
10	347	47	0.09	95	0.18	43	487	1292	2.42	26880	50.39
11	353	93	0.17	188	0.35	44	491	1329	2.49	28209	52.88
12	359	148	0.28	336	0.63	45	495	1389	2.60	29598	55.49
13	365	227	0.43	563	1.06	46	499	1382	2.59	30980	58.08
14	370	323	0.61	886	1.66	**47**	**504**	**1540**	**2.89**	**32520**	**60.96**
15	376	460	0.86	1346	2.52	48	508	1557	2.92	34077	63.88
16	380	526	0.99	1872	3.51	49	513	1528	2.86	35605	66.75
17	385	664	1.24	2536	4.75	50	518	1692	3.17	37297	69.92
18	390	762	1.43	3298	6.18	51	523	1594	2.99	38891	72.91
19	394	769	1.44	4067	7.62	52	528	1637	3.07	40528	75.97
20	398	833	1.56	4900	9.19	53	534	1617	3.03	42145	79.01
21	403	865	1.62	5765	10.81	**54**	**540**	**1508**	**2.83**	**43653**	**81.83**
22	407	823	1.54	6588	12.35	55	546	1517	2.84	45170	84.68
23	411	803	1.51	7391	13.86	56	553	1433	2.69	46603	87.36
24	415	831	1.56	8222	15.41	57	561	1367	2.56	47970	89.93
25	419	820	1.54	9042	16.95	58	569	1259	2.36	49229	92.29
26	422	795	1.49	9837	18.44	59	579	1062	1.99	50291	94.28
27	426	820	1.54	10657	19.98	60	590	953	1.79	51244	96.06
28	430	796	1.49	11453	21.47	61	603	787	1.48	52031	97.54
29	434	824	1.54	12277	23.01	62	619	604	1.13	52635	98.67
30	437	851	1.60	13128	24.61	63	642	411	0.77	53046	99.44
31	441	850	1.59	13978	26.20	64	679	227	0.43	53273	99.87
32	445	878	1.65	14856	27.85	65	800	71	0.13	53344	100.00

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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Table 8.1.1.40
Spring 2012 AIMS Frequency Distribution
Science CRT High School Cohort 15

Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq	%	Cum. Freq.	Cum. %
0	200	0	0.00	0	0.00	33	448	214	1.01	2540	12.01
1	214	0	0.00	0	0.00	34	452	243	1.15	2783	13.16
2	252	0	0.00	0	0.00	35	456	229	1.08	3012	14.25
3	274	0	0.00	0	0.00	36	460	234	1.11	3246	15.35
4	291	0	0.00	0	0.00	37	463	280	1.32	3526	16.68
5	304	0	0.00	0	0.00	38	467	303	1.43	3829	18.11
6	315	1	0.00	1	0.00	39	471	298	1.41	4127	19.52
7	324	0	0.00	1	0.00	**40**	**475**	**351**	**1.66**	**4478**	**21.18**
8	332	1	0.00	2	0.01	41	479	354	1.67	4832	22.85
9	340	2	0.01	4	0.02	42	483	382	1.81	5214	24.66
10	347	2	0.01	6	0.03	43	487	391	1.85	5605	26.51
11	353	12	0.06	18	0.09	44	491	467	2.21	6072	28.72
12	359	13	0.06	31	0.15	45	495	495	2.34	6567	31.06
13	365	22	0.10	53	0.25	46	499	565	2.67	7132	33.73
14	370	30	0.14	83	0.39	**47**	**504**	**557**	**2.63**	**7689**	**36.37**
15	376	53	0.25	136	0.64	48	508	592	2.80	8281	39.17
16	380	53	0.25	189	0.89	49	513	703	3.33	8984	42.49
17	385	64	0.30	253	1.20	50	518	713	3.37	9697	45.87
18	390	95	0.45	348	1.65	51	523	757	3.58	10454	49.45
19	394	99	0.47	447	2.11	52	528	786	3.72	11240	53.16
20	398	105	0.50	552	2.61	53	534	814	3.85	12054	57.01
21	403	114	0.54	666	3.15	**54**	**540**	**911**	**4.31**	**12965**	**61.32**
22	407	114	0.54	780	3.69	55	546	930	4.40	13895	65.72
23	411	127	0.60	907	4.29	56	553	978	4.63	14873	70.35
24	415	141	0.67	1048	4.96	57	561	939	4.44	15812	74.79
25	419	114	0.54	1162	5.50	58	569	961	4.55	16773	79.33
26	422	139	0.66	1301	6.15	59	579	906	4.29	17679	83.62
27	426	132	0.62	1433	6.78	60	590	907	4.29	18586	87.91
28	430	173	0.82	1606	7.60	61	603	839	3.97	19425	91.88
29	434	159	0.75	1765	8.35	62	619	653	3.09	20078	94.97
30	437	170	0.80	1935	9.15	63	642	543	2.57	20621	97.54
31	441	201	0.95	2136	10.10	64	679	366	1.73	20987	99.27
32	445	190	0.90	2326	11.00	65	800	155	0.73	21142	100.00

Note: Freq. = Frequency, Cum = Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending hospital schools are not included in this summary.

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8.1.2 AIMS 3-8 NRT State Results

This section of the technical report provides information on the results of the norm-referenced component of the reading, writing, and mathematics tests in Grades 3-8. Students in Grades 3-8 were administered a number of Stanford 10 items embedded within the AIMS 3-8 tests to provide norm-referenced scores. Please see Parts 3 and 4 of this report for more details on the design of the AIMS 3-8 tests. In addition to AIMS scale scores, Arizona students were also assigned norm-referenced scores based on their performance on the NRT items and the 2007 Stanford 10 norms. For more information regarding the development of the Stanford 10 norms please see *Stanford Achievement Test* Series, Tenth Edition: Supplemental Technical Data Report (NCS Pearson, Inc., 2008) and *Stanford Achievement Test* Series, Tenth Edition: 2007 Spring Supplemental Multilevel Norms Book (NCS Pearson, Inc., 2007).

Table 8.1.2.1 presents norm-referenced results from the Spring 2012 administration of AIMS 3-8. Included in the table for each grade and content are the mean (M), standard deviation (SD), and scales scores at the 25th, 50th, and 75th percentiles for both the Arizona students (AZ) and the Stanford 10 national standardization data (SS). The Stanford 10 national standardization data was taken from the documents cited above.

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Table 8.1.2.1
Spring 2012 AIMS NRT State Test Results

Test	N	M	SD	Percentile 25	Percentile 50	Percentile 75
Mathematics						
3	82905	627.2	46.9	595	626	665
4	81924	641.8	47.5	609	640	670
5	82386	659.9	42.1	627	659	689
6	81982	678.9	45.0	644	675	714
7	81501	685.8	49.6	652	677	714
8	79958	707.1	45.6	673	704	740
Reading						
3	82909	631.0	44.0	603	632	661
4	81933	639.1	41.9	612	639	663
5	82383	655.7	39.0	634	660	677
6	82027	668.0	35.2	644	671	695
7	81527	674.6	36.7	653	674	699
8	79961	690.8	35.0	669	690	717
Writing						
3	82909	610.1	43.1	578	611	642
4	81933	635.1	43.8	606	641	664
5	82383	652.4	43.4	622	655	678
6	82027	663.4	41.2	634	660	684
7	81527	673.7	40.7	645	670	704
8	79961	677.7	38.9	650	676	700

Note: AZ=Arizona NRT; SS=Stanford 10 National Standardization Sample. Students with no valid attempt, invalidation, or off-grade are not included in the AZ NRT summary data. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile correction centers, and students attending state hospital schools are not included in the AZ NRT summary. The AZ NRT results are not final results and are presented here for purposes of addressing reliability and validity. AZ NRT results should not be used for accountability purposes.

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8.2 Longitudinal Data

New writing assessments were created and administered in 2011 and a new scale was created. The 2011 administration serves as the base year for future comparisons. The results for the Spring 2011 and Spring 2012 AIMS Writing assessments are provided in Tables 8.2.1 and 8.2.2 .

The Spring 2005 administration of the AIMS Reading assessment represents the baseline year for those assessments. During the 2005 administration, a new vertical scale was established for the Grades 3-8 assessments, new scales were established for the high school assessment, and new cut scores were assigned for each grade.

The Spring 2010 administration of the AIMS Mathematics assessment represents the baseline year for those assessments. During the 2010 standard setting, a new vertical scale was established for Grades 3-8 assesments, new scales were established for the high school assessment, and new cut scores were assigned for each grade.

In this section, the Spring 2012 results are presented along with the longitudinal results going back to the base administration for each subject. Tables 8.2.3 - 8.2.8 include scale score descriptive statistics and performance level distributions for the AIMS administration from each year. Caution should be taken when interpreting year-to-year or grade-to-grade comparisons, as slight differences in exclusion rules, changes in the manner in which accommodations were identified, and changes in the manner in which high school results were separated may result in different student population characteristics reported in Tables 8.2.3-8.2.6. High school results are reported by grade in 2005 and changed to cohorts for 2006 and all subsequent years.

The Spring 2008 administration represents the baseline year for the AIMS Science assessment. In this section, the Spring 2010 results are presented along with the 2008 and 2009 results to provide longitudinal information. Tables 8.2.7 and 8.2.8 include scale score descriptive statistics and performance level distributions for 2008, 2009, and 2010 AIMS Science administrations.

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Table 8.2.1
Longitudinal Comparison of Scale Scores Mathematics CRT

			Scale Score		Percentiles				
Grade	Year	N	M	SD	P10	P25	P50	P75	P90
3	2010	83106	365.2	50.7	300	331	365	400	427
	2011	81633	368.3	50.1	300	334	368	400	427
	2012	82905	373.1	50.3	307	338	372	406	438
4	2010	81688	379.3	46.2	316	348	382	411	440
	2011	82040	387.3	51	319	351	386	421	448
	2012	81924	387.7	49.7	322	352	387	418	452
5	2010	81089	392.3	49.7	327	357	390	426	455
	2011	81829	394	50	327	357	394	426	455
	2012	82386	398.4	48.3	337	364	398	432	459
6	2010	79893	407.9	50.2	345	372	405	442	475
	2011	81277	417.3	53.3	348	377	415	451	483
	2012	81982	414.4	49.1	351	377	411	446	477
7	2010	79804	422.5	53.2	355	384	421	455	491
	2011	80266	416.2	49.6	355	382	414	446	484
	2012	81501	430.5	53	362	392	429	465	502
8	2010	79919	434.9	46.6	377	403	432	462	495
	2011	79384	435.7	47.9	377	403	432	466	501
	2012	79958	438.5	50.3	375	402	435	470	501
HS	2010(Corhort 12)	75858	499	51.2	437	462	496	530	563
	2011(Cohort 13)	73400	501.5	47.3	441	467	501	532	565
	2012(Cohort 14)	75052	501.8	45.8	444	468	500	529	561
HS	2010(Corhort 11)	17631	461.9	37.6	425	439	458	478	512
	2011(Cohort 12)	22574	470.6	31.2	431	449	469	491	508
	2012(Cohort 13)	18972	467.4	26.9	434	449	468	483	500
HS	2010(Corhort 9 & 10)	3126	445.6	30.9	417	430	446	462	478
	2011(Cohort 11)	13288	461.8	27.5	426	441	463	479	495
	2012(Cohort 12)	12627	463.7	24.6	431	446	463	479	493

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Table 8.2.2
Longitudinal Comparison of Performance Level DistributionMathematics CRT

			% at Performance Level			
Grade	Year	N	FFBS	AS	MS	ES
3	2010	83106	11	25	43	22
	2011	81633	10	22	43	24
	2012	82905	8	23	42	27
4	2010	81688	15	21	40	23
	2011	82040	14	19	37	30
	2012	81924	13	21	39	28
5	2010	81089	19	22	38	20
	2011	81829	19	21	39	21
	2012	82386	16	21	40	23
6	2010	79893	21	23	34	23
	2011	81277	17	20	33	30
	2012	81982	17	23	34	27
7	2010	79804	22	20	33	24
	2011	80266	25	22	34	19
	2012	81501	19	19	33	29
8	2010	79919	29	14	37	20
	2011	79384	29	14	36	21
	2012	79958	30	13	33	24
HS	2010(Corhort 12)	75858	30	12	35	23
	2011(Cohort 13)	73400	27	12	39	21
	2012(Cohort 14)	75052	27	13	40	21
HS	2010(Corhort 11)	17631	67	14	14	5
	2011(Cohort 12)	22574	51	21	26	3
	2012(Cohort 13)	18972	56	23	20	1
HS	2010(Corhort 9 & 10)	3126	85	9	6	1
	2011(Cohort 11)	13288	63	19	16	1
	2012(Cohort 12)	12627	62	22	16	1

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Table 8.2.3
Longitudinal Comparison of Scale Scores Reading CRT

			Scale Score		Percentiles				
Grade	Year	N	M	SD	P10	P25	P50	P75	P90
3	2005	77047	448.29	51.03	379	413	451	486	516
	2006	78487	451.49	50.75	380	418	454	486	516
	2007	79774	455.24	50.92	387	420	455	489	520
	2008	83305	456.44	53.11	384	421	455	490	520
	2009	83003	459.50	52.41	387	424	459	496	520
	2010	83105	460.50	50.10	391	428	464	496	520
	2011	81629	457.50	46.70	395	428	460	490	511
	2012	82909	463.10	48.10	399	431	462	496	526
4	2005	75685	468.70	53.56	398	431	469	506	531
	2006	78924	469.72	49.67	401	436	472	504	529
	2007	79270	470.71	52.12	397	433	472	504	529
	2008	81589	474.49	50.95	405	440	478	506	531
	2009	82366	477.47	51.15	408	444	478	511	541
	2010	81673	480.30	49.80	416	446	479	515	540
	2011	82025	479.50	50.10	412	446	479	509	540
	2012	81933	482.40	45.30	420	452	484	511	538
5	2005	76379	486.68	48.19	421	451	489	517	545
	2006	78157	489.26	47.66	426	456	491	519	547
	2007	79821	489.76	45.39	428	459	490	522	550
	2008	81330	491.42	47.25	427	457	493	527	549
	2009	81068	496.32	48.63	430	465	499	532	558
	2010	81101	496.40	46.20	433	464	501	532	554
	2011	81832	497.20	44.50	436	467	501	526	554
	2012	82383	503.10	44.40	442	473	507	536	557
6	2005	75940	494.22	49.30	427	460	493	526	561
	2006	78631	496.77	48.21	430	463	500	530	559
	2007	78842	498.99	48.38	433	466	499	533	562
	2008	81604	499.47	48.78	435	467	502	531	561
	2009	80840	501.40	48.34	436	469	504	535	559
	2010	79912	508.90	42.80	450	483	510	540	562
	2011	81282	513.20	42.90	454	486	519	540	562
	2012	82027	515.70	44.80	453	486	520	545	572
7	2005	77541	509.05	51.42	439	472	510	545	576
	2006	77917	512.12	51.84	444	474	511	551	582
	2007	79246	514.17	53.23	444	477	514	549	580
	2008	80827	515.76	51.13	446	479	518	549	580
	2009	81186	517.25	49.55	449	482	517	548	580
	2010	79818	525.10	48.10	460	493	526	557	589
	2011	80281	523.20	46.00	460	493	526	557	580
	2012	81527	536.00	45.70	477	506	539	564	593

Note. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

(table continues)

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Table 8.2.3 (continued)
Longitudinal Comparison of Scale Scores Reading CRT

			Scale Score		Percentiles				
Grade	Year	N	M	SD	P10	P25	P50	P75	P90
8	2005	76356	515.56	52.76	448	478	517	553	582
	2006	78067	518.71	53.21	448	482	520	558	590
	2007	77849	520.67	56.86	448	481	520	558	589
	2008	80537	522.95	56.36	449	482	521	559	590
	2009	79667	527.42	57.23	451	488	528	562	597
	2010	79940	529.50	55.10	457	495	534	568	600
	2011	79448	521.10	53.50	449	486	523	560	588
	2012	79961	526.50	50.90	456	494	531	561	586
HS	2005 (Grade 10)	68788	699.75	50.35	631	667	701	731	762
	2006 (Cohort 08)	72191	703.19	48.13	635	669	703	737	765
	2007 (Cohort 09)	74071	703.15	50.25	634	668	703	739	770
	2008 (Cohort 10)	75491	703.81	48.43	636	671	706	740	768
	2009 (Cohort 11)	75524	706.49	50.47	639	672	708	739	769
	2010(Cohort 12)	76493	710.40	49.60	643	676	712	743	774
	2011(Cohort 13)	75618	711.50	50.30	645	678	711	742	774
	2012(Cohort 14)	77283	714.30	45.90	653	684	717	747	773
HS	2005 (Grade 11)	18204	669.18	43.55	615	638	667	693	720
	2006 (Cohort 07)	12232	661.20	36.04	619	635	658	680	708
	2007 (Cohort 08)	12096	657.88	36.15	613	634	657	679	699
	2008 (Cohort 09)	11779	657.39	34.71	614	632	656	678	698
	2009 (Cohort 10)	16789	683.00	55.61	619	643	672	722	769
	2010(Cohort 11)	15295	680.70	51.80	622	643	673	708	757
	2011(Cohort 12)	14452	682.70	53.70	620	641	671	720	764
	2012(Cohort 13)	11229	675.20	44.00	626	644	669	692	741
HS	2005 (Grade 12)	8882	651.91	40.67	606	623	649	677	706
	2006 (Cohort 06)	6261	663.57	43.13	619	635	658	684	721
	2007 (Cohort 07)	5505	653.95	35.80	609	630	653	675	695
	2008 (Cohort 08)	5248	653.05	33.36	614	632	652	675	694
	2009 (Cohort 09)	5948	655.11	38.37	610	629	654	676	699
	2010(Cohort 9 & 10)	7820	658.80	37.90	613	631	658	680	704
	2011(Cohort 11)	6792	657.80	37.40	616	633	656	678	702
	2012(Cohort 12)	6181	662.00	35.90	621	640	657	681	704

Note. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

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Table 8.2.4
Longitudinal Comparison of Performance Level Distribution Reading CRT

			% at Performance Level			
Grade	Year	N	FFBS	AS	MS	ES
3	2005	77047	10	26	55	10
	2006	78487	9	24	56	11
	2007	79774	7	24	57	12
	2008	83305	8	24	56	13
	2009	83003	6	22	58	14
	2010	83105	6	21	60	13
	2011	81629	5	21	64	10
	2012	82909	4	21	61	15
4	2005	75685	12	24	54	9
	2006	78924	11	24	57	8
	2007	79270	11	24	55	10
	2008	81589	9	21	60	9
	2009	82366	8	20	60	12
	2010	81673	5	23	59	13
	2011	82025	5	24	59	13
	2012	81933	4	20	63	12
5	2005	76379	10	24	58	9
	2006	78157	9	24	58	9
	2007	79821	8	23	63	7
	2008	81330	10	22	60	8
	2009	81068	8	18	63	11
	2010	81101	8	20	66	7
	2011	81832	7	19	68	6
	2012	82383	5	17	66	12
6	2005	75940	12	25	57	7
	2006	78631	10	25	60	4
	2007	78842	9	24	59	7
	2008	81604	10	22	61	8
	2009	80840	9	21	65	5
	2010	79912	6	17	70	7
	2011	81282	5	14	72	9
	2012	82027	4	16	69	11
7	2005	77541	10	25	58	7
	2006	77917	10	25	58	7
	2007	79246	9	24	58	9
	2008	80827	9	21	62	8
	2009	81186	8	20	65	8
	2010	79818	5	17	67	10
	2011	80281	5	18	69	8
	2012	81527	2	14	72	12

Note. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

(table continues)

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Table 8.2.4 (continued)
Longitudinal Comparison of Performance Level Distribution Reading CRT

			% at Performance Level			
Grade	Year	N	FFBS	AS	MS	ES
8	2005	76356	11	26	57	6
	2006	78067	11	27	58	5
	2007	77849	11	26	56	7
	2008	80537	11	22	60	7
	2009	79667	10	21	60	9
	2010	79940	9	17	68	6
	2011	79448	10	21	64	5
	2012	79961	9	19	66	6
HS	2005 (Grade 10)	68788	8	21	63	8
	2006 (Cohort 08)	72191	6	23	64	8
	2007 (Cohort 09)	74071	8	20	65	7
	2008 (Cohort 10)	75491	6	21	66	7
	2009 (Cohort 11)	75524	6	20	66	8
	2010(Cohort 12)	76493	5	18	66	11
	2011(Cohort 13)	75618	5	17	66	12
	2012(Cohort 14)	77283	3	17	69	11
HS	2005 (Grade 11)	18204	15	39	43	3
	2006 (Cohort 07)	12232	15	53	31	1
	2007 (Cohort 08)	12096	21	48	31	1
	2008 (Cohort 09)	11779	17	52	30	1
	2009 (Cohort 10)	16789	13	38	41	7
	2010(Cohort 11)	15295	12	39	41	7
	2011(Cohort 12)	14452	13	37	41	8
	2012(Cohort 13)	11229	11	46	38	4
HS	2005 (Grade 12)	8882	28	44	28	1
	2006 (Cohort 06)	6261	17	50	30	3
	2007 (Cohort 07)	5505	24	49	26	1
	2008 (Cohort 08)	5248	20	55	25	0
	2009 (Cohort 09)	5948	21	53	25	1
	2010(Cohort 9 & 10)	7820	18	52	29	1
	2011(Cohort 11)	6792	19	52	28	1
	2012(Cohort 12)	6181	15	55	29	1

Note. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

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Table 8.2.5
Base Year Scale Scores Writing CRT

			Scale Score		Percentiles				
Grade	Year	N	M	SD	P10	P25	P50	P75	P90
5	2011	81258	499.9	49.5	442	467	498	524	554
	2012	81235	503.1	51.8	447	470	498	525	572
6	2011	80698	500	49.9	442	467	501	526	565
	2012	81377	502	50.9	444	472	498	527	567
7	2011	79778	499.8	49.4	444	470	495	520	565
	2012	80937	500.6	48.5	446	471	496	524	552
HS	2011(Cohort 13)	75788	499.5	49.9	439	469	499	528	562
HS(A)	2012(Cohort 14)	74849	501.7	46.7	445	471	501	529	561
HS(T)	2012(Cohort 14)	1610	483.6	45.1	427	454	483	512	540
HS	2011(Cohort 12)	13551	470.6	51.9	410	435	464	505	543
HS(A)	2012(Cohort 13)	16003	476.4	49.4	421	445	469	498	548
HS(T)	2012(Cohort 13)	1072	467.1	41.8	417	442	465	489	515
HS	2011(Cohort 11)	6169	444.3	39.9	397	418	443	469	494
HS(A)	2012(Cohort 12)	6626	453.8	37	409	431	453	473	498
HS(T)	2012(Cohort 12)	410	453.5	38.1	409	425	454	479	501

Note. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation, home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers, attending state hospital, and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

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Table 8.2.6
Base Year Performance Level Distribution Writing CRT

			% at Performance Level			
Grade	Year	N	FFBS	AS	MS	ES
5	2011	81258	8	37	51	5
	2012	81235	7	36	53	3
6	2011	80698	12	31	49	7
	2012	81377	12	31	49	8
7	2011	79778	12	35	48	6
	2012	80937	12	36	47	5
HS	2011(Cohort 13)	75788	8	25	63	5
HS(A)	2012(Cohort 14)	74849	6	24	66	4
HS(T)	2012(Cohort 14)	1610	12	35	52	2
HS	2011(Cohort 12)	13551	22	39	37	2
HS(A)	2012(Cohort 13)	16003	16	44	37	3
HS(T)	2012(Cohort 13)	1072	17	49	32	1
HS	2011(Cohort 11)	6169	37	45	18	0
HS(A)	2012(Cohort 12)	6626	26	53	21	0
HS(T)	2012(Cohort 12)	410	31	46	23	0

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation, home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers, attending state hospital schools, and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

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Table 8.2.7
Longitudinal Comparison of Scale Scores
Science CRT

			Scale Score		Percentiles				
Grade	Year	N	M	SD	P10	P25	P50	P75	P90
4	2008	80296	501.78	50.21	436	466	503	536	567
	2009	81724	508.19	50.47	443	475	508	540	567
	2010	80982	513.80	52.70	446	478	515	547	583
	2011	81934	534.80	61.70	455	492	536	575	615
	2012	81892	518.9	57.6	448	478	514	554	589
8	2008	79482	500.60	50.03	435	463	498	534	568
	2009	78703	506.43	49.97	439	471	506	539	571
	2010	79293	510.40	51.50	446	473	508	545	578
	2011	79409	517.70	47.60	454	484	521	551	578
	2012	80019	519.3	47.9	456	487	521	553	581
HS	2008 (Cohort 10)	45286	477.31	50.05	414	440	475	510	543
	2009 (Cohort 11)	51195	475.75	49.65	410	439	477	508	541
	2010(Cohort 12)	53671	479.10	51.80	414	442	474	512	545
	2011(Cohort 13)	54610	484.60	58.30	407	443	484	524	559
	2011(Cohort 14)	19392	523.70	58.80	446	488	524	559	596
	2012(Cohort 14)	53344	487	62.6	403	441	487	528	569
	2012(Cohort 15)	21142	526.3	65.4	441	487	528	569	603

Note: Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

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Table 8.2.8
Longitudinal Comparison of Performance Level Distribution
Science CRT

			% at Performance Level			
Grade	Year	N	FFBS	AS	MS	ES
4	2008	80296	22	25	35	18
	2009	81724	17	26	36	21
	2010	80982	17	22	33	28
	2011	81934	12	17	29	43
	2012	81892	16	21	31	32
8	2008	79482	31	20	22	28
	2009	78703	26	19	23	32
	2010	79293	23	18	25	34
	2011	79409	17	17	27	39
	2012	80019	18	15	28	40
HS	2008 (Cohort 10)	45286	49	19	20	12
	2009 (Cohort 11)	51195	50	18	22	11
	2010 (Cohort 12)	53671	50	16	21	14
	2011 (Cohort 13)	54610	43	15	23	18
	2011 (Cohort 14)	19392	19	12	27	41
	2012(Cohort 14)	53344	41	17	21	21
	2012(Cohort 15)	21142	20	14	23	43

Note: Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

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PART 9: VALIDITY EVIDENCE

Part 9 of the technical report provides evidence supporting the reliability and validity of the 2012 AIMS 3-8 and high school assessments. All data presented in this section were computed using population test data available in the final electronic data files. The following AERA/APA/NCME standards are addressed: 1.5, 1.7, 2.1, 2.4, 2.10, 2.13, 3.16, 4.15, 6.5, 7.1, 7.3, and 7.10.

9.1 Reliability

AERA/APA/NCME *Standards for Educational and Psychological Testing* refer to reliability as the "consistency of [a measure] when the testing procedure is repeated on a population of individuals or groups." A reliable test produces stable scores; that is, very similar score distributions would result if the test were administered repeatedly under similar conditions to the same students without memory or fatigue affecting the scores. Reliability of the Spring 2012 AIMS assessments was estimated in two ways: internal consistency for all multiple-choice tests and reliability of hand scoring for all writing tests.

9.1.1 Measures of Internal Consistency

For tests consisting of only constructed response or multiple-choice items, Cronbach's alpha is a frequently used measure of internal consistency. Cronbach's alpha is computed as (Crocker & Algina, 1986)

$$\hat{\alpha} = \frac{k}{k-1}\left(1 - \frac{\sum \sigma_i^2}{\sigma_X^2}\right),$$

where k = number of items, σ_X^2 = the total score variance, and σ_i^2 = the variance of item i.

For tests consisting of a mixture of item type with differing numbers of maximum points, it is more appropriate to use stratified alpha (Feldt and Brennan, 1989). The stratified alpha is a weighted average of Cronbach's alpha for the different components of the test. This is the measure of internal consistency reported for the writing tests. The formula for calculating stratified is

$$stratified\hat{\alpha} = 1 - \frac{\sum \sigma_{x_j}^2 \left(1 - \alpha_j\right)}{\sigma_x^2}$$

where

$\sigma_{x_j}^2$ is the variance of component j

α_j is the reliability of component j

σ_x^2 is the variance of the total test

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Reliability estimates for the multiple-choice tests administered as part of the Spring 2012 AIMS assessment are presented in Table 9.1.1.1 and Table 9.1.1.2. Note that a high degree of internal consistency is evident for all CRT tests. The reliability for the NRT assessment tends to be slightly lower than the corresponding CRT assessment due to the fewer number of items on each test. The reliability estimates for the AIMS writing tests are shown in Table 9.1.1.3.

In addition to the total test score, raw scores are reported at the Arizona strand and concept level. Internal consistency reliability estimates at the strand and concept level are reported in Tables 9.1.1.3 through 9.1.1.19.

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Table 9.1.1.1
Spring 2012 AIMS Internal Consistency

		CRT				NRT					
		Reading		**Math**		**Reading**		**Language**		**Math**	
Subgroup	Value	N	Alpha	N	Alpha	N	Alpha	N	Alpha	N	Alpha
Grade 3											
	Hispanic	35910	0.91	35907	0.92	35910	0.82	35910	0.76	35907	0.84
	Non-Hisp	46443	0.92	46443	0.93	46443	0.83	46443	0.79	46443	0.85
Ethnicity	White	66287	0.92	66284	0.93	66287	0.84	66287	0.79	66284	0.85
Ethnicity	Black	4653	0.91	4654	0.92	4653	0.83	4653	0.78	4654	0.85
Ethnicity	Asian	2449	0.91	2449	0.93	2449	0.83	2449	0.79	2449	0.84
Ethnicity	Am Indian	6238	0.90	6236	0.92	6238	0.81	6238	0.75	6236	0.84
Ethnicity	Hawaii	287	0.90	287	0.93	287	0.81	287	0.77	287	0.86
Ethnicity	Multiple	1906	0.91	1907	0.92	1906	0.83	1906	0.77	1907	0.84
Gender	Female	40601	0.91	40600	0.93	40601	0.83	40601	0.78	40600	0.85
Gender	Male	42213	0.92	42211	0.93	42213	0.84	42213	0.79	42211	0.86
ELL	Yes	5482	0.85	5481	0.90	5482	0.73	5482	0.66	5481	0.80
SPED	Yes	8447	0.92	8447	0.93	8447	0.85	8447	0.79	8447	0.87
Low SES	Yes	205	0.90	205	0.92	205	0.81	205	0.75	205	0.83
Migrant	Yes	74	0.92	74	0.92	74	0.85	74	0.82	74	0.85
TOTAL		82909	0.92	82905	0.93	82909	0.84	82909	0.79	82905	0.85
Grade 4											
	Hispanic	35719	0.91	35717	0.92	35719	0.81	35719	0.78	35717	0.83
	Non-Hisp	45721	0.92	45714	0.93	45721	0.83	45721	0.81	45714	0.85
Ethnicity	White	65613	0.92	65603	0.93	65613	0.83	65613	0.80	65603	0.84
Ethnicity	Black	4706	0.91	4707	0.93	4706	0.81	4706	0.80	4707	0.83
Ethnicity	Asian	2415	0.92	2415	0.93	2415	0.83	2415	0.80	2415	0.85
Ethnicity	Am Indian	6112	0.91	6110	0.92	6112	0.80	6112	0.78	6110	0.82
Ethnicity	Hawaii	264	0.93	264	0.94	264	0.83	264	0.83	264	0.86
Ethnicity	Multiple	1794	0.91	1795	0.93	1794	0.82	1794	0.79	1795	0.83
Gender	Female	40189	0.91	40187	0.93	40189	0.82	40189	0.79	40187	0.83
Gender	Male	41630	0.93	41623	0.94	41630	0.84	41630	0.81	41623	0.85
ELL	Yes	6254	0.85	6253	0.88	6254	0.67	6254	0.70	6253	0.75
SPED	Yes	9031	0.92	9032	0.93	9031	0.83	9031	0.81	9032	0.84
Low SES	Yes	259	0.91	259	0.91	259	0.78	259	0.77	259	0.79
Migrant	Yes	78	0.91	78	0.90	78	0.78	78	0.80	78	0.82
TOTAL		81933	0.92	81924	0.93	81933	0.83	81933	0.81	81924	0.84
Grade 5											
	Hispanic	35827	0.90	35825	0.92	35827	0.81	35827	0.77	35825	0.82
	Non-Hisp	46035	0.91	46040	0.93	46035	0.82	46035	0.80	46040	0.85
Ethnicity	White	66150	0.91	66143	0.93	66150	0.82	66150	0.80	66143	0.84
Ethnicity	Black	4644	0.91	4647	0.92	4644	0.82	4644	0.79	4647	0.82
Ethnicity	Asian	2514	0.91	2514	0.93	2514	0.82	2514	0.79	2514	0.85
Ethnicity	Am Indian	6019	0.90	6025	0.92	6019	0.80	6019	0.75	6025	0.81
Ethnicity	Hawaii	278	0.91	278	0.93	278	0.82	278	0.80	278	0.84
Ethnicity	Multiple	1743	0.91	1743	0.93	1743	0.82	1743	0.79	1743	0.84
Gender	Female	40290	0.90	40287	0.92	40290	0.81	40290	0.78	40287	0.83
Gender	Male	42014	0.92	42020	0.93	42014	0.83	42014	0.80	42020	0.85
ELL	Yes	4638	0.82	4639	0.86	4638	0.68	4638	0.59	4639	0.67
SPED	Yes	9062	0.91	9066	0.92	9062	0.83	9062	0.78	9066	0.81
Low SES	Yes	243	0.91	243	0.92	243	0.80	243	0.74	243	0.79
Migrant	Yes	101	0.91	101	0.91	101	0.81	101	0.77	101	0.79
TOTAL		82383	0.91	82386	0.93	82383	0.82	82383	0.80	82386	0.84

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(table continues)

Table 9.1.1.1 (continued)
Spring 2012 AIMS Internal Consistency

		CRT				NRT					
		Reading		**Math**		**Reading**		**Language**		**Math**	
Subgroup	Value	N	Alpha	N	Alpha	N	Alpha	N	Alpha	N	Alpha
Grade 6											
	Hispanic	35012	0.90	34989	0.93	35012	0.76	35012	0.75	34989	0.84
	Non-Hisp	46549	0.91	46529	0.94	46549	0.77	46549	0.78	46529	0.87
Ethnicity	White	65899	0.91	65875	0.93	65899	0.77	65899	0.77	65875	0.86
Ethnicity	Black	4866	0.91	4850	0.93	4866	0.77	4866	0.78	4850	0.85
Ethnicity	Asian	2350	0.91	2350	0.94	2350	0.78	2350	0.80	2350	0.88
Ethnicity	Am Indian	6088	0.89	6087	0.92	6088	0.75	6088	0.73	6087	0.83
Ethnicity	Hawaii	259	0.91	259	0.94	259	0.79	259	0.79	259	0.86
Ethnicity	Multiple	1703	0.90	1702	0.93	1703	0.75	1703	0.75	1702	0.86
Gender	Female	40312	0.90	40292	0.93	40312	0.76	40312	0.75	40292	0.85
Gender	Male	41637	0.91	41613	0.94	41637	0.79	41637	0.78	41613	0.87
ELL	Yes	2760	0.80	2760	0.86	2760	0.59	2760	0.62	2760	0.72
SPED	Yes	8744	0.90	8746	0.91	8744	0.77	8744	0.75	8746	0.81
Low SES	Yes	337	0.88	337	0.91	337	0.72	337	0.72	337	0.81
Migrant	Yes	79	0.91	79	0.92	79	0.76	79	0.75	79	0.83
TOTAL		82027	0.91	81982	0.93	82027	0.78	82027	0.77	81982	0.86
Grade 7											
	Hispanic	34649	0.89	34635	0.93	34649	0.76	34649	0.76	34635	0.85
	Non-Hisp	46447	0.90	46436	0.94	46447	0.78	46447	0.78	46436	0.88
Ethnicity	White	65512	0.90	65493	0.94	65512	0.78	65512	0.78	65493	0.88
Ethnicity	Black	4646	0.90	4645	0.93	4646	0.78	4646	0.77	4645	0.85
Ethnicity	Asian	2313	0.91	2313	0.95	2313	0.79	2313	0.80	2313	0.90
Ethnicity	Am Indian	6092	0.89	6089	0.92	6092	0.75	6092	0.74	6089	0.83
Ethnicity	Hawaii	270	0.89	270	0.93	270	0.75	270	0.75	270	0.87
Ethnicity	Multiple	1746	0.89	1746	0.94	1746	0.77	1746	0.78	1746	0.87
Gender	Female	39816	0.89	39807	0.93	39816	0.76	39816	0.77	39807	0.87
Gender	Male	41608	0.90	41592	0.94	41608	0.79	41608	0.79	41592	0.88
ELL	Yes	1345	0.77	1345	0.86	1345	0.60	1345	0.61	1345	0.66
SPED	Yes	8075	0.88	8069	0.91	8075	0.74	8075	0.73	8069	0.79
Low SES	Yes	254	0.89	254	0.91	254	0.75	254	0.75	254	0.79
Migrant	Yes	81	0.85	81	0.90	81	0.66	81	0.66	81	0.76
TOTAL		81527	0.90	81501	0.94	81527	0.78	81527	0.78	81501	0.88
Grade 8											
	Hispanic	33605	0.89	33607	0.92	33605	0.74	33605	0.71	33607	0.85
	Non-Hisp	45937	0.90	45933	0.94	45937	0.77	45937	0.74	45933	0.87
Ethnicity	White	64142	0.90	64142	0.93	64142	0.76	64142	0.73	64142	0.86
Ethnicity	Black	4909	0.90	4909	0.93	4909	0.76	4909	0.73	4909	0.85
Ethnicity	Asian	2271	0.91	2270	0.95	2271	0.79	2271	0.78	2270	0.89
Ethnicity	Am Indian	5746	0.89	5744	0.92	5746	0.74	5746	0.70	5744	0.84
Ethnicity	Hawaii	258	0.90	258	0.93	258	0.75	258	0.75	258	0.85
Ethnicity	Multiple	1716	0.90	1715	0.93	1716	0.76	1716	0.73	1715	0.86
Gender	Female	39223	0.89	39224	0.93	39223	0.74	39223	0.71	39224	0.86
Gender	Male	40627	0.90	40623	0.94	40627	0.78	40627	0.75	40623	0.87
ELL	Yes	997	0.83	997	0.87	997	0.68	997	0.60	997	0.73
SPED	Yes	7834	0.88	7834	0.89	7834	0.75	7834	0.72	7834	0.76
Low SES	Yes	176	0.88	176	0.90	176	0.71	176	0.66	176	0.79
Migrant	Yes	90	0.91	90	0.93	90	0.79	90	0.75	90	0.86
TOTAL		79961	0.90	79958	0.93	79961	0.77	79961	0.74	79958	0.87

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Table 9.1.1.1 (continued)
Spring 2012 AIMS Internal Consistency

		CRT			
		Reading		**Math**	
Subgroup	Value	N	Alpha	N	Alpha
HS					
	Hispanic	40371	0.89	46819	0.91
	Non-Hisp	53456	0.91	59121	0.94
Ethnicity	White	74168	0.91	83792	0.94
Ethnicity	Black	6115	0.90	7101	0.92
Ethnicity	Asian	2912	0.93	2869	0.96
Ethnicity	Am Indian	6593	0.88	7812	0.90
Ethnicity	Hawaii	315	0.91	325	0.93
Ethnicity	Multiple	1769	0.91	2206	0.93
Gender	Female	46387	0.91	52772	0.93
Gender	Male	48095	0.91	53705	0.94
ELL	Yes	2431	0.70	2371	0.86
SPED	Yes	10104	0.84	11473	0.85
Low SES	Yes	332	0.87	480	0.88
Migrant	Yes			263	0.9
TOTAL		94693	0.91	106651	0.94

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Table 9.1.1.2
Spring 2012 AIMS Internal Consistency for Science

Subgroup	Value	N	Alpha
Grade 4			
	Hispanic	35692	0.89
	Non-Hisp	45710	0.91
Ethnicity	White	65578	0.90
Ethnicity	Black	4703	0.90
Ethnicity	Asian	2414	0.91
Ethnicity	Am Indian	6114	0.88
Ethnicity	Hawaii	264	0.90
Ethnicity	Multiple	1794	0.90
Gender	Female	40154	0.90
Gender	Male	41625	0.91
ELL	Yes	6257	0.79
SPED	Yes	9021	0.91
Low SES	Yes	258	0.88
Migrant	Yes	78	0.86
TOTAL		81892	0.91
Grade 8			
	Hispanic	33626	0.88
	Non-Hisp	45975	0.89
Ethnicity	White	64192	0.89
Ethnicity	Black	4914	0.89
Ethnicity	Asian	2272	0.91
Ethnicity	Am Indian	5750	0.88
Ethnicity	Hawaii	258	0.89
Ethnicity	Multiple	1717	0.89
Gender	Female	39248	0.89
Gender	Male	40658	0.90
ELL	Yes	995	0.80
SPED	Yes	7845	0.88
Low SES	Yes	176	0.84
Migrant	Yes	90	0.89
TOTAL		80019	0.90
HS			
	Hispanic	29281	0.93
	Non-Hisp	44170	0.94
Ethnicity	White	59190	0.94
Ethnicity	Black	4374	0.93
Ethnicity	Asian	2322	0.95
Ethnicity	Am Indian	4223	0.92
Ethnicity	Hawaii	237	0.94
Ethnicity	Multiple	1413	0.94
Gender	Female	36784	0.93
Gender	Male	37467	0.95
ELL	Yes	999	0.81
SPED	Yes	5410	0.91
Low SES	Yes	277	0.92
Migrant	Yes	166	0.93
TOTAL		74486	0.94

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Table 9.1.1.3
Spring 2012 AIMS Internal Consistency for Writing

Subgroup	Value	N	Alpha
Grade 5			
	Hispanic	35254	0.84
	Non-Hisp	45470	0.86
Ethnicity	White	65350	0.86
Ethnicity	Black	4533	0.86
Ethnicity	Asian	2466	0.85
Ethnicity	Am Indian	5898	0.83
Ethnicity	Hawaii	273	0.86
Ethnicity	Multiple	1722	0.86
Gender	Female	39845	0.85
Gender	Male	41312	0.87
ELL	Yes	4426	0.72
SPED	Yes	8819	0.85
Low SES	Yes	235	0.84
Migrant	Yes	97	0.85
TOTAL		81235	0.86
Grade 6			
	Hispanic	34723	0.83
	Non-Hisp	46199	0.85
Ethnicity	White	65463	0.85
Ethnicity	Black	4803	0.85
Ethnicity	Asian	2322	0.85
Ethnicity	Am Indian	5999	0.82
Ethnicity	Hawaii	257	0.85
Ethnicity	Multiple	1692	0.83
Gender	Female	40107	0.84
Gender	Male	41196	0.85
ELL	Yes	2644	0.71
SPED	Yes	8559	0.83
Low SES	Yes	335	0.81
Migrant	Yes	76	0.82
TOTAL		81377	0.85
Grade 7			
	Hispanic	34385	0.84
	Non-Hisp	46130	0.85
Ethnicity	White	65114	0.85
Ethnicity	Black	4598	0.84
Ethnicity	Asian	2284	0.86
Ethnicity	Am Indian	6018	0.83
Ethnicity	Hawaii	265	0.83
Ethnicity	Multiple	1733	0.85
Gender	Female	39625	0.84
Gender	Male	41213	0.86
ELL	Yes	1259	0.72
SPED	Yes	7878	0.81
Low SES	Yes	253	0.83
Migrant	Yes	80	0.79
TOTAL		80937	0.85

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Table 9.1.1.3
Spring 2012 AIMS Internal Consistency for Writing (Continued)

Subgroup	Value	N	Alpha
HS(Prompt A)			
	Hispanic	41701	0.79
	Non-Hisp	54847	0.81
Ethnicity	White	76599	0.81
Ethnicity	Black	6108	0.80
Ethnicity	Asian	2995	0.85
Ethnicity	Am Indian	6727	0.78
Ethnicity	Hawaii	316	0.82
Ethnicity	Multiple	1810	0.80
Gender	Female	46489	0.81
Gender	Male	50780	0.80
ELL	Yes	2355	0.65
SPED	Yes	10222	0.75
Low SES	Yes	343	0.78
Migrant	Yes		
TOTAL		97478	0.81
HS(Prompt T)			
	Hispanic	1281	0.77
	Non-Hisp	1720	0.82
Ethnicity	White	2144	0.81
Ethnicity	Black	250	0.78
Ethnicity	Asian	53	0.84
Ethnicity	Am Indian	327	0.73
Ethnicity	Hawaii	11	0.65
Ethnicity	Multiple	62	0.76
Gender	Female	1317	0.81
Gender	Male	1743	0.79
ELL	Yes	37	0.63
SPED	Yes	433	0.74
Low SES	Yes	6	0.16
Migrant	Yes		
TOTAL		3092	0.8

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Table 9.1.1.4
Spring 2012 AIMS Strand/Concept Internal Consistency: Math Grade 3

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Number and Operations		28	82905	19.79	5.51	0.85
	Concept 1: Number Sense	11	82905	7.59	2.05	0.56
	Concept 2: Numerical Operations	13	82905	9.64	3.06	0.81
	Concept 3: Estimation	4	82905	2.56	1.21	0.51
2. Data Analysis, Probability, and Discrete Mathematics		8	82905	5.04	1.88	0.61
	Concept 1: Data Analysis (Statistics)	4	82905	2.87	1.07	0.50
	Concept 3/4: Systematic Listing and Counting/Vertex-Edge Graphs	4	82905	2.17	1.18	0.43
3. Patterns, Algebra, and Functions		11	82905	7.49	2.71	0.77
	Concept 1: Patterns	4	82905	3.02	1.11	0.56
	Concept 2/3: Functions and Relationships/Algebraic Representations	7	82905	4.46	1.91	0.69
4. Geometry and Measurement		12	82905	8.75	2.19	0.64
	Concept 4: Measurement	6	82905	4.06	1.50	0.55
	Concept 1/2: Geometric Properties/Transformation of Shapes	6	82905	4.68	1.05	0.39
5. Structure and Logic		7	82905	4.17	1.73	0.56
	Concept 1/2: Algorithms and Algorithmic Thinking/ Logic, Reasoning, Problem Solving, and Proof	7	82905	4.17	1.73	0.56

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Table 9.1.1.5
Spring 2012 AIMS Strand/Concept Internal Consistency: Math Grade 4

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Number and Operations		27	81924	17.20	5.33	0.84
	Concept 1: Number Sense	11	81924	7.38	2.38	0.69
	Concept 2: Numerical Operations	12	81924	7.38	2.58	0.68
	Concept 3: Estimation	4	81924	2.44	1.15	0.45
2. Data Analysis, Probability, and Discrete Mathematics		8	81924	5.69	1.92	0.68
	Concept 1: Data Analysis (Statistics)	4	81924	3.24	0.95	0.49
	Concept 2/3/4: Probability/Systematic Listing and Counting/Vertex-Edge Graphs	4	81924	2.46	1.28	0.57
3. Patterns, Algebra, and Functions		12	81924	9.00	2.70	0.77
	Concept 1: Patterns	5	81924	3.80	1.37	0.65
	Concept 3/4: Algebraic Representations/Analysis of Change	7	81924	5.20	1.62	0.61
4. Geometry and Measurement		13	81924	8.40	2.62	0.66
	Concept 1: Geometric Properties	5	81924	3.11	1.19	0.38
	Concept 3: Coordinate Geometry	4	81924	2.73	1.24	0.63
	Concept 4: Measurement	4	81924	2.56	1.09	0.37
5. Structure and Logic		8	81924	4.85	2.06	0.67
	Concept 1/2: Algorithms and Algorithmic Thinking/ Logic, Reasoning, Problem Solving, and Proof	8	81924	4.85	2.06	0.67

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Table 9.1.1.6
Spring 2012 AIMS Strand/Concept Internal Consistency: Math Grade 5

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Number and Operations		25	82386	16.16	5.44	0.86
	Concept 1: Number Sense	11	82386	6.82	2.58	0.71
	Concept 2: Numerical Operations	10	82386	6.91	2.55	0.76
	Concept 3: Estimation	4	82386	2.42	1.08	0.38
2. Data Analysis, Probability, and Discrete Mathematics		12	82386	7.94	2.66	0.70
	Concept 1: Data Analysis (Statistics)	4	82386	2.56	1.24	0.57
	Concept 2: Probability	4	82386	2.96	1.03	0.44
	Concept 3/4: Systematic Listing and Counting/Vertex-Edge Graphs	4	82386	2.42	1.15	0.40
3. Patterns, Algebra, and Functions		11	82386	7.46	2.61	0.72
	Concept 1: Patterns	4	82386	2.85	1.11	0.49
	Concept 3/4: Algebraic Representations/Analysis of Change	7	82386	4.61	1.82	0.62
4. Geometry and Measurement		10	82386	7.01	1.86	0.54
	Concept 1: Geometric Properties	5	82386	3.53	1.24	0.49
	Concept 4: Measurement	5	82386	3.48	1.01	0.26
5. Structure and Logic		9	82386	4.72	2.03	0.60
	Concept 1/2: Algorithms and Algorithmic Thinking/ Logic, Reasoning, Problem Solving, and Proof	9	82386	4.72	2.03	0.60

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Table 9.1.1.7
Spring 2012 AIMS Strand/Concept Internal Consistency: Math Grade 6

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Number and Operations		23	81982	13.76	4.91	0.83
	Concept 1: Number Sense	9	81982	5.52	2.28	0.70
	Concept 2: Numerical Operations	10	81982	5.74	2.20	0.61
	Concept 3: Estimation	4	81982	2.50	1.20	0.50
2. Data Analysis, Probability, and Discrete Mathematics		12	81982	7.60	2.88	0.74
	Concept 1: Data Analysis (Statistics)	4	81982	2.65	1.20	0.56
	Concept 2: Probability	4	81982	2.37	1.23	0.51
	Concept 3/4: Systematic Listing and Counting/Vertex-Edge Graphs	4	81982	2.57	1.15	0.45
3. Patterns, Algebra, and Functions		11	81982	7.78	2.66	0.76
	Concept 1/2: Patterns/Functions and Relationships	4	81982	3.08	1.13	0.60
	Concept 3/4: Algebraic Representations/Analysis of Change	7	81982	4.70	1.82	0.65
4. Geometry and Measurement		13	81982	8.41	2.80	0.71
	Concept 3: Coordinate Geometry	4	81982	2.76	1.03	0.41
	Concept 4: Measurement	5	81982	3.26	1.36	0.51
	Concept 1/2: Geometric Properties/Transformation of Shapes	4	81982	2.39	1.17	0.46
5. Structure and Logic		9	81982	5.40	2.14	0.62
	Concept 1/2: Algorithms and Algorithmic Thinking/ Logic, Reasoning, Problem Solving, and Proof	9	81982	5.40	2.14	0.62

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Table 9.1.1.8 Spring 2012 AIMS Strand/Concept Internal Consistency: Math Grade 7

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Number and Operations		17	81501	10.39	3.70	0.78
	Concept 1: Number Sense	5	81501	2.96	1.54	0.61
	Concept 2: Numerical Operations	8	81501	5.07	1.90	0.64
	Concept 3: Estimation	4	81501	2.37	1.03	0.25
2. Data Analysis, Probability, and Discrete Mathematics		13	81501	9.25	2.89	0.77
	Concept 1: Data Analysis (Statistics)	4	81501	3.09	0.97	0.43
	Concept 2: Probability	5	81501	3.34	1.35	0.58
	Concept 3/4: Systematic Listing and Counting/Vertex-Edge Graphs	4	81501	2.82	1.16	0.53
3. Patterns, Algebra, and Functions		13	81501	9.25	2.92	0.77
	Concept 1/2: Patterns/Functions and Relationships	4	81501	2.84	1.16	0.52
	Concept 3/4: Algebraic Representations/Analysis of Change	9	81501	6.42	2.08	0.70
4. Geometry and Measurement		15	81501	9.93	3.31	0.76
	Concept 4: Measurement	6	81501	3.43	1.69	0.60
	Concept 1/2: Geometric Properties/Transformation of Shapes	9	81501	6.50	2.04	0.66
5. Structure and Logic		10	81501	6.14	2.25	0.66
	Concept 1/2: Algorithms and Algorithmic Thinking/ Logic, Reasoning, Problem Solving, and Proof	10	81501	6.14	2.25	0.66

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Table 9.1.1.9 Spring 2012 AIMS Strand/Concept Internal Consistency: Math Grade 8

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Number and Operations		12	79958	6.96	2.77	0.71
	Concept 1: Number Sense	4	79958	2.28	1.13	0.43
	Concept 2: Numerical Operations	4	79958	2.32	1.15	0.45
	Concept 3: Estimation	4	79958	2.36	1.19	0.47
2. Data Analysis, Probability, and Discrete Mathematics		12	79958	8.35	2.57	0.71
	Concept 1: Data Analysis (Statistics)	4	79958	2.87	1.07	0.42
	Concept 2: Probability	4	79958	2.71	1.07	0.44
	Concept 3/4: Systematic Listing and Counting/Vertex-Edge Graphs	4	79958	2.77	1.10	0.48
3. Patterns, Algebra, and Functions		18	79958	11.14	4.03	0.81
	Concept 3: Algebraic Representations	8	79958	4.96	2.05	0.67
	Concept 4: Analysis of Change	4	79958	2.35	1.04	0.33
	Concept 1/2: Patterns/Functions and Relationships	6	79958	3.83	1.69	0.65
4. Geometry and Measurement		16	79958	9.58	3.51	0.75
	Concept 1: Geometric Properties	4	79958	2.56	1.16	0.43
	Concept 2: Transformation of Shapes	4	79958	2.47	1.11	0.36
	Concept 3: Coordinate Geometry	4	79958	2.03	1.18	0.47
	Concept 4: Measurement	4	79958	2.53	1.22	0.53
5. Structure and Logic		10	79958	7.13	2.28	0.72
	Concept 1/2: Algorithms and Algorithmic Thinking/ Logic, Reasoning, Problem Solving, and Proof	10	79958	7.13	2.28	0.72

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Table 9.1.1.10 Spring 2012 AIMS Strand/Concept Internal Consistency: Math Grade 10

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Number and Operations		5	106651	2.36	1.36	0.53
	Concept 1/2/3: Number Sense/Numerical Operations/Estimation	5	106651	2.36	1.36	0.53
2. Data Analysis, Probability, and Discrete Mathematics		12	106651	6.32	2.64	0.64
	Concept 1: Data Analysis (Statistics)	4	106651	2.40	1.20	0.47
	Concept 2: Probability	4	106651	1.85	1.19	0.41
	Concept 3/4: Systematic Listing and Counting/Vertex-Edge Graphs	4	106651	2.07	1.12	0.28
3. Patterns, Algebra, and Functions		28	106651	15.88	5.67	0.84
	Concept 1: Patterns	4	106651	2.38	1.16	0.47
	Concept 2: Functions and Relationships	6	106651	3.65	1.33	0.42
	Concept 3: Algebraic Representations	14	106651	7.56	3.30	0.76
	Concept 4: Analysis of Change	4	106651	2.28	1.13	0.41
4. Geometry and Measurement		28	106651	16.75	5.46	0.83
	Concept 1: Geometric Properties	11	106651	6.78	2.45	0.66
	Concept 2: Transformation of Shapes	4	106651	2.68	1.12	0.47
	Concept 3: Coordinate Geometry	7	106651	4.00	1.70	0.55
	Concept 4: Measurement	6	106651	3.30	1.46	0.45
5. Structure and Logic		12	106651	6.55	2.64	0.67
	Concept 1/2: Algorithms and Algorithmic Thinking/ Logic, Reasoning, Problem Solving, and Proof	12	106651	6.55	2.64	0.67

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Table 9.1.1.11 Spring 2012 AIMS Strand/Concept Internal Consistency: Reading Grade 3

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Reading Process		24	82909	17.15	4.59	0.82
	Concept 1: Print Concepts	5	82909	3.53	1.26	0.50
	Concept 3: Phonics	5	82909	3.85	1.09	0.45
	Concept 4: Vocabulary	6	82909	4.38	1.54	0.64
	Concept 6: Comprehension	9	82909	6.24	2.04	0.62
2. Comprehending Literary Text		12	82909	7.67	2.61	0.70
	Concept 1: Elements of Literature	12	82909	7.67	2.61	0.70
3. Comprehending Informational Text		18	82909	11.79	4.04	0.82
	Concept 1: Expository Text	5	82909	3.86	1.20	0.56
	Concept 2: Functional Text	6	82909	3.42	1.59	0.54
	Concept 3: Persuasive Text	6	82909	3.68	1.87	0.71

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Table 9.1.1.12 Spring 2012 AIMS Strand/Concept Internal Consistency: Reading Grade 4

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Reading Process		12	81933	9.09	2.61	0.75
	Concept 4: Vocabulary	4	81933	3.13	1.05	0.56
	Concept 6: Comprehension	8	81933	5.96	1.83	0.63
2. Comprehending Literary Text		17	81933	10.90	3.68	0.77
	Concept 1: Elements of Literature	17	81933	10.90	3.68	0.77
3. Comprehending Informational Text		25	81933	16.80	5.18	0.85
	Concept 1: Expository Text	14	81933	8.83	3.20	0.75
	Concept 2: Functional Text	5	81933	3.68	1.15	0.51
	Concept 3: Persuasive Text	6	81933	4.29	1.52	0.63

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Table 9.1.1.13 Spring 2012 AIMS Strand/Concept Internal Consistency: Reading Grade 5

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Reading Process		12	82383	8.60	2.52	0.70
	Concept 4: Vocabulary	6	82383	4.61	1.45	0.62
	Concept 6: Comprehension	6	82383	3.99	1.43	0.47
2. Comprehending Literary Text		17	82383	11.04	3.35	0.74
	Concept 1: Elements of Literature	17	82383	11.04	3.35	0.74
3. Comprehending Informational Text		25	82383	16.94	5.18	0.84
	Concept 1: Expository Text	13	82383	9.20	3.01	0.78
	Concept 2: Functional Text	6	82383	4.14	1.57	0.59
	Concept 3: Persuasive Text	6	82383	3.60	1.40	0.43

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Table 9.1.1.14 Spring 2012 AIMS Strand/Concept Internal Consistency: Reading Grade 6

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Reading Process		12	82027	8.42	2.70	0.74
	Concept 4: Vocabulary	7	82027	5.12	1.70	0.65
	Concept 6: Comprehension	5	82027	3.30	1.34	0.51
2. Comprehending Literary Text		17	82027	11.48	3.09	0.71
	Concept 1: Elements of Literature	17	82027	11.48	3.09	0.71
3. Comprehending Informational Text		25	82027	16.60	5.08	0.83
	Concept 1: Expository Text	13	82027	8.19	2.77	0.70
	Concept 2: Functional Text	6	82027	4.08	1.59	0.59
	Concept 3: Persuasive Text	6	82027	4.32	1.51	0.59

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Table 9.1.1.15 Spring 2012 AIMS Strand/Concept Internal Consistency: Reading Grade 7

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Reading Process		12	81527	8.16	2.60	0.69
	Concept 4: Vocabulary	6	81527	4.12	1.54	0.59
	Concept 6: Comprehension	6	81527	4.05	1.44	0.48
2. Comprehending Literary Text		17	81527	11.17	3.52	0.76
	Concept 1: Elements of Literature	13	81527	8.61	2.68	0.69
	Concept 2: Historical and Cultural Aspects of Literature	4	81527	2.56	1.19	0.51
3. Comprehending Informational Text		25	81527	17.54	4.42	0.79
	Concept 1: Expository Text	12	81527	8.30	2.38	0.63
	Concept 2: Functional Text	7	81527	4.59	1.55	0.50
	Concept 3: Persuasive Text	6	81527	4.65	1.35	0.53

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Table 9.1.1.16 Spring 2012 AIMS Strand/Concept Internal Consistency: Reading Grade 8

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Reading Process		9	79961	5.93	2.10	0.63
	Concept 4: Vocabulary	4	79961	2.61	1.19	0.52
	Concept 6: Comprehension	5	79961	3.32	1.27	0.41
2. Comprehending Literary Text		18	79961	12.87	3.33	0.75
	Concept 1: Elements of Literature	14	79961	9.78	2.69	0.69
	Concept 2: Historical and Cultural Aspects of Literature	4	79961	3.09	0.99	0.40
3. Comprehending Informational Text		27	79961	18.88	4.94	0.81
	Concept 1: Expository Text	13	79961	8.77	2.56	0.63
	Concept 2: Functional Text	8	79961	5.52	1.99	0.68
	Concept 3: Persuasive Text	6	79961	4.59	1.23	0.43

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Table 9.1.1.17 Spring 2012 AIMS Strand/Concept Internal Consistency: Reading Grade 10

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Reading Process		8	94693	4.36	2.02	0.64
	Concept 4: Vocabulary	4	94693	1.95	1.16	0.45
	Concept 6: Comprehension	4	94693	2.40	1.20	0.49
2. Comprehending Literary Text		18	94693	10.35	3.75	0.76
	Concept 1: Elements of Literature	14	94693	7.99	3.20	0.75
	Concept 2: Historical and Cultural Aspects of Literature	4	94693	2.36	1.01	0.26
3. Comprehending Informational Text		28	94693	18.70	5.46	0.84
	Concept 1: Expository Text	12	94693	7.91	2.87	0.75
	Concept 2: Functional Text	8	94693	5.86	1.76	0.62
	Concept 3: Persuasive Text	8	94693	4.92	1.67	0.51

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Table 9.1.1.18 Spring 2012 AIMS Strand/Concept Internal Consistency: Science Grade 4

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Scientific Inquiry		18	81892	12.32	3.76	0.79
	Concept 1: Observations, Questions, and Hypotheses	6	81892	3.65	1.67	0.59
	Concept 2: Scientific Testing (Investigating and Modeling)	6	81892	4.47	1.34	0.50
	Concept 3/4: Analysis and Conclusions/Communication	6	81892	4.20	1.48	0.57
2. History and Nature of Science		6	81892	5.03	1.18	0.54
	Concept 1/2: History of Science as a Human Endeavor/Nature of Scientific Knowledge	6	81892	5.03	1.18	0.54
3. Science in Personal and Social Perspectives		6	81892	4.11	1.57	0.59
	Concept 1/2: Changes in Environments/Science and Technology in Society	6	81892	4.11	1.57	0.59
4. Life Science		6	81892	4.27	1.37	0.47
	Concept 1/3/4: Characteristics of Organisms/Organisms and Environments/Diversity, Adaptation, and Behavior	6	81892	4.27	1.37	0.47
5. Physical Science		6	81892	3.50	1.65	0.59
	Concept 3: Energy and Magnetism	6	81892	3.50	1.65	0.59
6. Earth and Space Science		12	81892	7.95	2.51	0.66
	Concept 2: Earth's Processes and Systems	6	81892	3.57	1.63	0.57
	Concept 3: Changes in the Earth and Sky	6	81892	4.39	1.32	0.48

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Table 9.1.1.19 Spring 2012 AIMS Strand/Concept Internal Consistency: Science Grade 8

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Scientific Inquiry		20	80019	13.08	3.61	0.74
	Concept 1: Observations, Questions, and Hypotheses	6	80019	3.77	1.38	0.41
	Concept 2: Scientific Testing (Investigating and Modeling)	4	80019	3.05	0.96	0.42
	Concept 3: Analysis, Conclusions, and Refinements	6	80019	4.38	1.46	0.56
	Concept 4: Communication	4	80019	1.88	1.01	0.18
2. History and Nature of Science		6	80019	4.28	1.40	0.49
	Concept 1/2: History of Science as a Human Endeavor/Nature of Scientific Knowledge	6	80019	4.28	1.40	0.49
3. Science in Personal and Social Perspectives		6	80019	3.97	1.59	0.62
	Concept 1/2: Changes in Environments/Science and Technology in Society	6	80019	3.97	1.59	0.62
4. Life Science		8	80019	5.83	1.74	0.59
	Concept 2/4: Reproduction and Heredity/Diversity, Adaptation, and Behavior	8	80019	5.83	1.74	0.59
5. Physical Science		18	80019	12.07	3.24	0.70
	Concept 1: Properties and Changes of Properties in Matter	10	80019	7.39	2.00	0.60
	Concept 2: Motion and Forces	8	80019	4.68	1.74	0.49

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Table 9.1.1.20 Spring 2012 AIMS Strand/Concept Internal Consistency: Science Grade 10

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
1. Scientific Inquiry		22	74486	14.93	4.81	0.84
	Concept 1: Observations, Questions, and Hypotheses	6	74486	4.20	1.50	0.57
	Concept 2: Scientific Testing (Investigating and Modeling)	6	74486	4.09	1.57	0.60
	Concept 3: Analysis, Conclusions, and Refinements	6	74486	4.15	1.54	0.62
	Concept 4: Communication	4	74486	2.49	1.23	0.50
2. History and Nature of Science		6	74486	4.03	1.63	0.61
	Concept 1/2: History of Science as a Human Endeavor/Nature of Scientific Knowledge	6	74486	4.03	1.63	0.61
3. Science in Personal and Social Perspectives		7	74486	5.36	1.73	0.74
	Concept 1/2/3: Changes in Environments/Science and Technology in Society/Human Population Characteristics	7	74486	5.36	1.73	0.74
4. Life Science		30	74486	19.05	6.30	0.87
	Concept 1: The Cell	6	74486	3.14	1.56	0.51
	Concept 2: Molecular Basis of Heredity	6	74486	3.22	1.67	0.58
	Concept 3: Interdependence of Organisms	6	74486	4.12	1.73	0.71
	Concept 4: Biological Evolution	6	74486	4.57	1.44	0.61
	Concept 5: Matter, Energy, and Organization in Living Systems (Including Human Systems)	6	74486	4.00	1.53	0.57

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Table 9.1.1.21 Spring 2012 AIMS Strand/Concept Internal Consistency: Writing Grade 5

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
2		27	81235	18.60	5.46	0.85
2	12	9	81235	6.23	2.08	0.67
2	345	6	81235	3.75	1.59	0.55
2	6	12	81235	8.62	2.60	0.73

Table 9.1.1.22 Spring 2012 AIMS Strand/Concept Internal Consistency: Writing Grade 6

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
2		27	81377	18.42	5.27	0.84
2	12	11	81377	7.39	2.52	0.70
2	345	7	81377	4.79	1.74	0.60
2	6	9	81377	6.24	1.86	0.62

Table 9.1.1.23 Spring 2012 AIMS Strand/Concept Internal Consistency: Writing Grade 7

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
2		27	80937	19.10	5.20	0.84
2	12	11	80937	7.33	2.40	0.68
2	345	7	80937	5.66	1.45	0.59
2	6	9	80937	6.11	2.17	0.68

Table 9.1.1.24 Spring 2012 AIMS Strand/Concept Internal Consistency: Writing Grade 10

Strand	Concept	Number of Items	N	Raw Score Mean	Raw Score STD	Alpha
2		27	100570	17.83	4.90	0.80
2	12	12	100570	8.38	2.40	0.66
2	345	9	100570	5.69	1.93	0.53
2	6	6	100570	3.76	1.51	0.58

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9.1.2 Reliability of Constructed-Response Scoring

For constructed response items, the consistency with which two raters assign scores to student responses is typically determined by inter-rater agreement. In scoring the essay, each student essay is randomly assigned to a rater. All essays are scored by two raters at the high school level, and 10 percent of the essays are scored by a second rater for the Grades 5, 6, and 7 essay. Since different raters scored different essays, the inter-rater statistics computed here do not measure the degrees of agreement or disagreements between the same two raters across the entire set of essay responses. Therefore, it is more accurate to describe the inter-rater agreement reported in this section as inter-rater position reliability.

For the Grades 5-7 writing tests, ten percent of the student responses were randomly selected and scored by a second rater to reduce rater drift and allow measures of rater agreement to be estimated. The statistics provided in Table 9.1.2.1 were calculated using the scores from both raters for the ten percent of the responses that were scored twice. For the high school writing prompts, each student paper was scored by two independent raters for all students. The statistics for Prompt A and Prompt T are presented in Table 9.1.2.2 and were calculated using the scores from both raters. The two scores for each essay were used in the analyses to calculate rater agreement.

The raw score means, raw score standard deviations, and percentage of agreement between the first and second rater were computed. Perfect agreement is defined as trait scores that are exactly the same between the first and second rating. Adjacent agreement is defined as trait scores differing by one point between the first and second rating. Discrepant cases include records in which scores from the first and the second rating differed by more than one point. In addition, Cohen's kappa and intraclass correlation are provided as indices of agreement between the first and second rating.

Cohen's kappa (Cohen, 1960) is commonly used to summarize the agreement between raters and is computed as (Brennan & Prediger, 1981):

$$\kappa = \frac{\sum P_{ii} - \sum P_{i\cdot} P_{\cdot i}}{1 - \sum P_{i\cdot} P_{\cdot i}},$$

where $\sum P_{ii}$ is the observed proportion of agreement and $\sum P_{i\cdot} P_{\cdot i}$ is the chance proportion of agreement.

Intraclass correlation is defined by Shrout and Fleiss (1979) as "the correlation between one measurement on a target and another measurement obtained on that target." In the context of the 2012 Spring AIMS Writing tests, the "target" is the student response, and each measurement was obtained by a randomly assigned rater to that response. Therefore, ICC(1,1) was used to estimate intraclass correlation. ICC(1,1) is estimated as (Shrout & Fleiss, 1979):

$$ICC(1,1) = \frac{BMS - WMS}{BMS + (k-1)WMS},$$

where *BMS* = between-targets mean square, *WMS* = within-targets mean square, and *k*=the number of raters rating each target.

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Table 9.1.2.1
Spring 2012 AIMS Inter-Rater Position Consistency
Grades 5-7

		MAX	Rater 1		Rater 2		% Agreement			Wgt	Interclass
	N	Points	M	SD	M	SD	Perfect	Adjacent	Discrepant	Kappa	Correlation
Grade 5	8154	6	3.79	0.96	3.80	0.96	59.31	38.97	1.72	0.41	0.75
Grade 6	8216	6	3.68	0.93	3.68	0.92	60.84	37.43	1.73	0.43	0.74
Grade 7	8180	6	3.57	0.88	3.57	0.87	62.40	35.88	1.72	0.43	0.72

Note: All student responses were rated by the two raters. Only students receiving scores and condition codes of B, C, and D are included in this analysis.

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Table 9.1.2.2
Spring 2012 AIMS Inter-Rater Position Consistency
High School

		MAX	Rater 1		Rater 2		% Agreement			Wgt	Interclass
	N	Points	M	SD	M	SD	Perfect	Adjacent	Discrepant	Kappa	Correlation
Form A	97474	12	7.45	1.76	7.45	1.76	62.20	36.35	1.45	0.43	0.73
Form T	3092	12	6.55	1.87	6.54	1.83	63.23	35.87	0.91	0.47	0.77

Note: All student responses were rated by the two raters. Only students receiving scores and condition codes of B, C, and D are included in this analysis.

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9.2 Validity

"Validity refers to the degree to which evidence and theory support the interpretations of test scores entailed by proposed users of tests. Validity is, therefore, the most fundamental consideration in developing and evaluating tests" (AERA/APA/NCME, 1999). The purpose of test score validation is not to validate the test itself but to validate interpretations of the test scores for particular purposes or uses. Test score validation is not a quantifiable property but an ongoing process, beginning at initial conceptualization and continuing throughout the entire assessment process.

The Spring 2012 AIMS tests were designed and developed to provide fair and accurate ability scores that support appropriate, meaningful, and useful educational decisions. In addition to the evidence provided in Part 2 (Involvement of Arizona Educators), additional validity evidence may be found in the following parts as described: Part 3 (Test Design), Part 4 (Test Development), Part 5 (Test Administration), Part 6 (Classical Item Analysis), Part 7 (Calibration, Scaling and Equating), Part 9.1 (Reliability), and Part 10 (Classification). As the technical report has progressed, chapter by chapter, it has moved through the phases of the testing cycle. Each part of the technical report detailed the procedures and processes applied in the creation of AIMS, as well as their results. Each part also highlights the meaning and significance of the procedures, processes, and results in terms of content and construct validity and the relationship to the Standards. Part 9.2 addresses two final issues in validity: the issues of bias and construct validity. The analyses presented here add to the perspectives provided in Chapters 2 through 10. Below is a brief review.

Part 2 of the technical report described the involvement of Arizona educators, ADE, and Pearson in the test development process. As indicated in Part 2, the test development process and the involvement of Arizona educators in that process formed an important part of the validity of the entire AIMS. The knowledge, expertise, and professional judgment offered by Arizona educators ultimately ensured that the content of AIMS formed an adequate and representative sample of appropriate content and that the content formed a legitimate basis upon which to validly derive conclusions about student achievement.

Parts 3 and 4 of the technical report addressed the issue of test form development. Part 3 provided a general discussion of test book creation and editing process, the process of selecting operational test items, the content distribution of embedded field test items, and the process of obtaining ADE approvals. The test design process and the participation of Arizona educators in the process of test selection, including item content and bias review, provide a solid rationale for having confidence in the content and design of AIMS as a tool from which to derive valid inferences about Arizona student performance.

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Part 5 of the technical report described the process, procedures, and policies that guided the administration of the AIMS, including accommodations, security, and the written procedures provided to test administrators and school personnel.

Part 6 described classical data analysis of the Spring 2012 AIMS.

Part 7 of the technical report described the calibration, scaling and equating methods, as well as processes and procedures for deriving scale scores from students' raw scores and the data cleaning steps which ensure valid calibration and scaling. Some references to introductory and advanced discussions of IRT are provided.

Part 8 of the technical report dealt with the test results, longitudinal comparisons, score distributions and performance levels.

Part 9 above dealt with inter-rater position consistency, interclass correlation, rater agreement, and alpha reliabilities and internal consistency. It described Cronbach's alpha as a measure for internal consistency for Reading, Mathematics, Science, and inter-rater position consistency for Writing.

Part 9 below presents an analysis of DIF (Differential Item Functioning) complete with tables of gender and ethnic functioning of all operational items for the 2012 AIMS assessments.

Part 10 of the technical report will describe a detailed analysis of classification consistency and classification accuracy.

Additional evidence to support the validity of the 2012 AIMS assessments is provided by the following:

- Any items that displayed differential item functioning for subgroups of ethnicity and gender were identified.
- Correlations between scores on the 2012 AIMS tests for each grade level as construct validity were presented.

Also note that further evidence in support of the AIMS assessment has been documented in previous AIMS technical reports and standard setting technical reports.

9.2.1 Differential Item Functioning

Because test scores can have many sources of variation, the test publishers' task is to develop assessments that measure the intended abilities and skills without introducing extraneous elements or construct irrelevant variance. When tests measure something other than what they are intended to measure, test scores will reflect these unintended skills and knowledge, as well as what is purportedly assessed by the test. If this occurs, these tests can be called biased (Angoff, 1993; Camilli & Shepard, 1994; Green, 1975). One of the factors that may render test scores to be biased is differing cultural and socioeconomic experiences.

The Spring 2012 AIMS tests were developed using procedures to minimize item and test bias and included reviews such as the Content and Sensitivity Reviews described in Part 4, Test Development. Expertise in this area is not, however, a substitute for statistical analyses of the items. Thus, an empirical differential item functioning (DIF) approach was used to examine potential item bias. DIF studies include systematic item analyses to determine if examinees with the same underlying level of ability have the same probability of correctly responding to the item. Items identified with DIF are further examined to determine if item performance differences between identifiable subgroups of the population are due to extraneous or construct irrelevant information which makes the items unfairly difficult for one of the subgroups.

DIF analyses of the Spring 2012 AIMS tests were conducted for ethnic subgroups and gender. In order to compute DIF, students must be matched on ability level using a conditioning variable.

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For these analyses, raw score on the CRT test in the content area of interest was used as the conditioning variable. Note that DIF analyses were conducted on all multiple-choice reading, writing, mathematics, and science items

The Mantel-Haenszel chi-square statistic was used to identify DIF in multiple-choice items. The Mantel-Haenszel statistic was first recommended by Holland and Thayer (1988), is frequently used, and is efficient in terms of statistical power (Clauser & Mazor, 1998). The Mantel-Haenszel statistic is computed as (Zwick, Donoghue, & Grima, 1993):

$$\text{Mantel } \chi^2 = \frac{\left(\sum_k F_k - \sum_k E(F_k)\right)^2}{\sum_k \text{Var}(F_k)},$$

where F_k is the sum of scores for the focal group at the kth level of the matching variable. Note that the Mantel-Haenszel statistic is sensitive to N such that larger sample sizes increase the value of chi square.

In addition to the Mantel-Haenszel chi-square statistic, the delta statistic (MH-D DIF) was computed for all items. Educational Testing Service (ETS) first developed the MH-D DIF statistic. To compute delta, alpha (the odds ratio) is first computed as:

$$\alpha_{MH} = \frac{\sum_{k=1}^{K} N_{r1k} N_{f0k} / N_k}{\sum_{k=1}^{K} N_{f1k} N_{r0k} / N_k},$$

where N_{r1k} is the number of correct responses in the reference group at ability level k, N_{f0k} is the number of incorrect responses in the focal group at ability level k, N_k is the total number of responses, N_{f1k} is the number of correct responses in the focal group at ability level k, and N_{r0k} is the number of incorrect responses in the reference group at ability level k. MH-D DIF is then computed as:

$$\text{MH-D DIF} = -2.35 \ln(\alpha_{MH}).$$

Positive values of MH-D DIF indicate items that favor the focal group, whereas negative values of MH-D DIF indicate items that favor the reference group.

The Mantel-Haenszel chi-square statistic and the delta statistic were used in combination to identify the Spring 2012 AIMS items that exhibit strong, weak, or no DIF (Zieky, 1993). Table 9.2.1.1 indicates the criteria for each category used for the 2012 AIMS DIF analysis. An alpha level of .01 was used for all Mantel-Haenszel statistics. Note that the criteria are very lenient given very large sample sizes and the number of DIF statistics computed. In other words, a large number of items will be placed in categories B and C given the critical value. For reference, the critical value for the chi-square statistic to be significant at $p<0.01$ is 6.635, at $p<0.001$ the critical value is 10.827, and at $p<0.0005$ the critical value is 12.116.

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Table 9.2.1.1
Differential Item Functioning Flag Categories

Category	Description	Criterion
A	No DIF	Mantel-Haenzel chi-square not significantly different than zero
B	Weak DIF	Significant Mantel-Haenzel chi-square ($p<0.01$) and |MH D-DIF| < 1.5
C	Strong DIF	Significant Mantel-Haenzel chi-square ($p<0.01$) and |MH D-DIF| $\geq$ 1.5

Another measure of DIF, also presented here for the Spring 2012 AIMS operational items, is the standardized mean difference (SMD; Zwick et al., 1993). The SMD is an effect size index of DIF, which is relatively easy to interpret. The SMD compares the means of the reference and focus groups, adjusting for the distribution of reference and focal group members on the conditioning variable, which for these analyses is the CRT raw score. SMD is computed as (Zwick et al., 1993):

$$SMD = \sum_k p_{Fk}\left(m_{Fk} - m_{Rk}\right),$$

where p_{Fk} is the proportion of the focal group members at the kth level of the matching variable, m_{Fk} is the mean item response of the focal group at the kth level and m_{Rk} is the mean item response of the reference group at the kth level . A negative SMD value indicates an item on which the focal group has a lower mean than the reference group. A positive SMD value indicates an item on which the reference group has a lower mean than the focal group.

Mantel-Haenszel chi-square statistic, MH-D DIF, SMD, and flag category results for all items in the Spring 2012 AIMS CRT tests are presented in Tables 9.2.1.2 through 9.2.1.18. It is important to note that DIF analyses are also conducted on field test items prior to form construction. Very few AIMS items are identified as exhibiting strong DIF in field testing. All items exhibiting strong DIF are investigated for possible sources of differential functioning by Pearson and ADE staff and such items are avoided in form construction. Not surprisingly, the vast majority of items on the operational AIMS exhibit no DIF or weak DIF. Items that were flagged for exhibiting strong DIF are summarized in Table 9.2.1.19. There were a total of 13 such items, 6 with multiple flags.

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Table 9.2.1.2
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 3

	Reference: Male N= 42191 Focal: Female N= 40586				Reference: Hispanic N= 46985 Focal: Non Hispanic N= 35887				Reference: White N= 66273 Focal: Africa American N= 4651				Reference: White N= 66273 Focal: Native American N= 6218				Reference: White N= 66273 Focal: Asian N= 2449				Reference: White N= 66273 Focal: Hawaii N= 285				Reference: White N= 66273 Focal: Multiple Indicator N= 19			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	261.88	-0.73	-0.04	A	192.90	-0.62	-0.04	A	55.61	-0.64	-0.04	A	103.52	-0.76	-0.06	A	15.89	-0.60	-0.02	A	0.06	0.10	0.01	A	10.75	0.52	0.03	A
2	6.93	-0.10	-0.01	A	23.00	0.19	0.02	A	0.05	-0.02	0.00	A	7.19	0.20	0.02	A	0.25	0.06	0.00	A	1.05	0.35	0.03	A	1.01	0.13	0.01	A
3	9.69	-0.13	-0.01	A	34.37	-0.26	-0.02	A	7.22	-0.23	-0.02	A	0.01	0.01	0.00	A	1.69	-0.19	-0.01	A	3.91	-0.70	-0.04	A	0.27	-0.07	0.00	A
4	428.19	-0.79	-0.06	A	101.13	-0.39	-0.03	A	1.83	-0.11	-0.01	A	7.73	-0.19	-0.02	A	1.10	0.13	0.01	A	7.83	0.94	0.07	A	6.01	0.31	0.02	A
5	42.25	0.29	0.02	A	87.27	-0.42	-0.03	A	1.28	-0.10	-0.01	A	35.61	-0.46	-0.03	A	0.87	-0.15	-0.01	A	0.04	0.08	0.00	A	8.09	0.43	0.02	A
6	157.08	0.49	0.04	A	192.66	-0.54	-0.04	A	0.62	-0.06	-0.01	A	209.20	-0.99	-0.09	A	16.22	-0.50	-0.03	A	0.11	-0.11	-0.01	A	3.82	0.25	0.02	A
7	17.22	-0.16	-0.01	A	2.55	-0.06	0.00	A	4.36	-0.18	-0.01	A	0.06	0.02	0.00	A	0.72	0.10	0.01	A	0.63	-0.28	-0.02	A	0.28	0.07	0.01	A
8	24.60	0.20	0.01	A	2.20	0.06	0.00	A	3.78	-0.16	-0.01	A	0.11	0.02	0.00	A	0.46	-0.09	0.00	A	2.60	-0.52	-0.04	A	0.04	0.03	0.00	A
9	25.36	-0.18	-0.02	A	39.66	0.23	0.02	A	12.53	-0.28	-0.02	A	8.75	0.20	0.02	A	1.32	-0.12	-0.01	A	0.48	0.21	0.02	A	6.07	-0.29	-0.03	A
10	237.17	-0.69	-0.04	A	20.70	0.21	0.01	A	18.45	-0.38	-0.03	A	2.18	0.12	0.01	A	0.56	-0.12	0.00	A	0.21	-0.18	-0.01	A	0.44	-0.10	-0.01	A
11	5.07	-0.09	-0.01	A	89.21	-0.37	-0.03	A	6.86	0.21	0.02	A	5.04	-0.16	-0.01	A	19.52	0.59	0.04	A	0.26	0.18	0.01	A	7.60	0.37	0.03	A
12	7.35	0.13	0.01	A	53.00	0.36	0.02	A	4.09	0.20	0.01	A	7.66	0.23	0.01	A	46.78	1.51	0.04	C>	0.80	-0.37	-0.02	A	1.94	-0.22	-0.01	A
13	56.97	0.41	0.02	A	1.44	0.07	0.00	A	0.04	0.02	0.00	A	3.60	-0.18	-0.01	A	1.91	-0.24	-0.01	A	2.10	-0.60	-0.03	A	0.15	0.07	0.00	A
14	139.49	0.41	0.04	A	168.47	0.47	0.04	A	12.82	-0.28	-0.03	A	16.91	0.28	0.02	A	7.16	0.28	0.03	A	1.60	0.37	0.04	A	5.26	-0.27	-0.02	A
15	21.17	-0.18	-0.01	A	5.18	-0.09	-0.01	A	29.21	-0.44	-0.04	A	3.94	-0.14	-0.01	A	1.40	0.16	0.01	A	0.07	0.09	0.01	A	9.18	-0.38	-0.03	A
16	32.72	-0.21	-0.02	A	64.94	-0.30	-0.02	A	0.16	0.03	0.00	A	18.92	-0.31	-0.03	A	10.16	0.36	0.03	A	1.53	-0.38	-0.03	A	0.00	0.00	0.00	A
17	4.82	-0.08	-0.01	A	188.26	-0.52	-0.04	A	1.15	0.09	0.01	A	36.14	-0.43	-0.04	A	9.50	0.37	0.03	A	4.38	0.63	0.05	A	6.52	0.32	0.03	A
18	84.44	0.39	0.02	A	5.30	0.10	0.01	A	10.80	-0.28	-0.02	A	1.20	0.08	0.01	A	7.61	-0.38	-0.02	A	0.03	0.06	0.00	A	1.82	-0.19	-0.01	A
19	264.30	0.80	0.04	A	1.21	-0.05	0.00	A	0.74	0.08	0.00	A	7.15	0.22	0.01	A	2.96	0.34	0.01	A	0.33	0.27	0.01	A	0.50	0.12	0.01	A
20	15.26	0.16	0.01	A	8.84	0.13	0.01	A	6.22	0.22	0.02	A	14.19	0.29	0.02	A	40.59	0.99	0.05	A	2.78	0.64	0.04	A	0.26	0.07	0.00	A
21	15.49	0.16	0.01	A	10.72	0.13	0.01	A	12.38	-0.29	-0.02	A	1.30	-0.08	-0.01	A	2.17	0.21	0.01	A	0.11	-0.12	-0.01	A	0.02	-0.02	0.00	A
22	1.19	0.04	0.00	A	321.69	-0.65	-0.06	A	5.85	0.19	0.02	A	132.38	-0.80	-0.07	A	0.61	0.09	0.01	A	0.25	-0.16	-0.01	A	3.13	0.21	0.02	A
23	8.93	-0.12	-0.01	A	298.87	-0.67	-0.05	A	2.78	0.13	0.01	A	55.49	-0.52	-0.04	A	5.47	-0.29	-0.02	A	8.33	-0.92	-0.07	A	3.13	0.23	0.02	A
24	523.04	-0.81	-0.07	A	147.92	-0.44	-0.04	A	68.48	-0.63	-0.06	A	15.85	-0.27	-0.02	A	1.15	-0.12	-0.01	A	4.37	-0.63	-0.06	A	0.33	0.07	0.01	A
25	84.39	0.42	0.02	A	54.33	0.34	0.02	A	5.75	0.22	0.01	A	0.36	-0.05	0.00	A	16.08	0.71	0.02	A	4.15	0.87	0.04	A	0.19	0.07	0.00	A
26	93.31	0.36	0.03	A	0.03	0.01	0.00	A	2.23	0.12	0.01	A	14.10	0.26	0.02	A	7.21	0.34	0.02	A	0.42	0.21	0.02	A	0.03	-0.02	0.00	A
27	2.95	0.06	0.01	A	17.33	0.14	0.02	A	0.14	-0.03	0.00	A	2.65	0.10	0.01	A	16.69	0.40	0.04	A	1.05	-0.30	-0.03	A	0.09	-0.03	0.00	A
28	227.35	-0.62	-0.04	A	240.77	-0.64	-0.05	A	0.55	-0.06	0.00	A	167.26	-0.98	-0.07	A	4.08	0.28	0.02	A	0.12	0.12	0.01	A	4.48	0.28	0.02	A
29	0.31	-0.02	0.00	A	9.28	-0.11	-0.01	A	80.42	-0.72	-0.06	A	0.26	-0.04	0.00	A	10.01	-0.33	-0.03	A	0.06	-0.07	-0.01	A	8.74	-0.35	-0.03	A
30	194.72	0.58	0.04	A	0.00	0.00	0.00	A	0.04	0.02	0.00	A	2.49	-0.12	-0.01	A	15.23	0.58	0.03	A	3.09	0.66	0.04	A	0.17	0.06	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.2 (continued)
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 3

	Reference: Male N= 42191 Focal: Female N= 40586				Reference: Hispanic N= 46985 Focal: Non Hispanic N= 35887				Reference: White N= 66273 Focal: Africa American N= 4651				Reference: White N= 66273 Focal: Native American N= 6218				Reference: White N= 66273 Focal: Asian N= 2449				Reference: White N= 66273 Focal: Hawaii N= 285				Reference: White N= 66273 Focal: Multiple Indicator N= 19			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	20.15	-0.19	-0.01	A	35.85	-0.26	-0.02	A	0.46	0.06	0.00	A	6.76	-0.19	-0.01	A	0.36	0.09	0.00	A	0.24	0.19	0.01	A	7.00	0.39	0.02	A
32	9.50	-0.15	-0.01	A	0.57	-0.04	0.00	A	2.72	-0.16	-0.01	A	10.94	-0.27	-0.02	A	0.00	0.01	0.00	A	1.67	-0.50	-0.03	A	4.93	0.37	0.02	A
33	4.43	0.12	0.00	A	10.09	-0.18	-0.01	A	0.06	-0.03	0.00	A	12.15	0.35	0.02	A	0.52	0.16	0.00	A	0.60	0.40	0.01	A	0.11	0.06	0.00	A
34	140.54	0.46	0.04	A	616.59	-0.96	-0.07	A	8.84	0.24	0.02	A	6.38	-0.18	-0.01	A	0.57	0.10	0.01	A	3.00	-0.57	-0.04	A	8.16	0.38	0.03	A
35	1.70	0.06	0.00	A	22.93	0.21	0.01	A	0.73	0.08	0.01	A	8.80	0.24	0.02	A	1.95	0.22	0.01	A	0.79	0.34	0.02	A	0.00	0.00	0.00	A
36	93.93	-0.51	-0.02	A	0.67	0.04	0.00	A	16.22	-0.41	-0.02	A	0.83	-0.08	0.00	A	0.39	0.13	0.00	A	0.60	0.37	0.01	A	0.27	0.09	0.00	A
37	235.15	-0.60	-0.05	A	33.49	-0.23	-0.02	A	20.42	-0.36	-0.03	A	0.12	0.02	0.00	A	3.36	0.25	0.01	A	0.13	0.12	0.01	A	0.95	-0.13	-0.01	A
38	16.65	-0.15	-0.01	A	25.89	-0.20	-0.01	A	2.96	0.14	0.01	A	0.26	0.04	0.00	A	6.30	0.27	0.02	A	1.60	0.39	0.03	A	0.03	-0.02	0.00	A
39	0.45	-0.03	0.00	A	16.10	0.18	0.01	A	0.70	0.08	0.00	A	0.48	0.05	0.00	A	2.74	0.27	0.01	A	0.00	0.00	0.00	A	0.15	0.06	0.00	A
40	87.40	-0.37	-0.03	A	4.29	0.08	0.01	A	8.49	-0.24	-0.02	A	2.55	0.12	0.01	A	5.37	0.32	0.02	A	1.33	0.41	0.03	A	0.01	0.01	0.00	A
41	57.45	-0.42	-0.02	A	14.14	0.21	0.01	A	5.68	-0.25	-0.01	A	4.90	0.21	0.01	A	0.70	0.19	0.00	A	0.00	-0.03	0.00	A	0.15	0.07	0.00	A
42	551.49	-0.89	-0.07	A	0.05	-0.01	0.00	A	0.84	-0.07	-0.01	A	4.90	0.15	0.01	A	1.23	0.14	0.01	A	0.00	0.01	0.00	A	0.76	0.11	0.01	A
43	3.82	0.08	0.01	A	4.58	-0.09	-0.01	A	2.14	0.12	0.01	A	0.42	-0.05	0.00	A	14.06	0.50	0.03	A	0.90	0.32	0.02	A	1.05	0.13	0.01	A
44	219.99	0.55	0.05	A	1.36	0.04	0.00	A	16.32	-0.33	-0.03	A	49.88	-0.51	-0.04	A	2.48	0.18	0.01	A	2.03	-0.44	-0.04	A	0.35	-0.07	-0.01	A
45	184.09	0.67	0.03	A	35.12	0.30	0.02	A	5.09	-0.22	-0.01	A	6.91	0.22	0.01	A	0.32	-0.11	0.00	A	1.86	-0.52	-0.03	A	2.50	0.26	0.01	A
46	45.24	0.38	0.01	A	38.48	0.35	0.01	A	2.61	0.18	0.01	A	6.58	0.25	0.01	A	0.08	0.06	0.00	A	0.04	0.10	0.00	A	0.62	0.15	0.01	A
47	48.41	-0.29	-0.02	A	15.30	0.17	0.01	A	25.08	-0.43	-0.03	A	11.48	-0.25	-0.02	A	0.78	0.13	0.01	A	0.82	-0.34	-0.02	A	0.14	-0.05	0.00	A
48	40.43	0.22	0.02	A	95.34	0.35	0.03	A	2.33	0.12	0.01	A	10.76	0.22	0.02	A	14.75	0.40	0.04	A	0.42	-0.19	-0.02	A	0.79	-0.10	-0.01	A
49	75.19	0.59	0.01	A	0.58	-0.05	0.00	A	0.41	0.09	0.00	A	1.64	0.15	0.00	A	0.87	-0.22	0.00	A	1.76	-0.70	-0.02	A	0.00	0.02	0.00	A
50	34.43	0.20	0.02	A	87.14	-0.32	-0.03	A	2.91	0.12	0.01	A	4.57	-0.14	-0.01	A	3.42	0.19	0.02	A	0.01	0.02	0.00	A	1.57	-0.14	-0.01	A
51	386.66	0.70	0.06	A	38.93	-0.23	-0.02	A	38.40	-0.50	-0.04	A	25.52	-0.36	-0.03	A	16.38	-0.42	-0.04	A	6.36	-0.78	-0.07	A	0.47	-0.08	-0.01	A
52	19.75	0.21	0.01	A	14.60	-0.18	-0.01	A	0.00	-0.01	0.00	A	78.98	-0.70	-0.05	A	0.10	-0.06	0.00	A	0.13	-0.15	-0.01	A	3.80	0.31	0.02	A
53	202.46	0.60	0.04	A	34.90	0.25	0.02	A	17.90	-0.36	-0.03	A	19.17	-0.33	-0.03	A	46.03	1.10	0.05	B>	0.69	-0.30	-0.02	A	1.17	-0.15	-0.01	A
54	160.85	0.51	0.04	A	148.99	0.50	0.04	A	50.61	-0.58	-0.05	A	32.76	0.43	0.03	A	0.80	0.12	0.01	A	0.19	0.16	0.01	A	0.32	-0.08	-0.01	A
55	43.91	0.28	0.02	A	5.51	-0.10	-0.01	A	0.60	0.07	0.00	A	2.11	-0.11	-0.01	A	4.44	0.32	0.01	A	0.19	0.16	0.01	A	4.52	0.30	0.02	A
56	133.76	0.74	0.02	A	12.85	0.23	0.01	A	4.00	-0.25	-0.01	A	0.08	0.03	0.00	A	0.79	-0.20	0.00	A	3.48	-0.89	-0.03	A	0.05	-0.05	0.00	A
57	13.21	0.14	0.01	A	83.50	0.36	0.03	A	37.76	0.50	0.04	A	52.93	0.51	0.04	A	33.26	0.77	0.05	A	0.00	-0.02	0.00	A	0.18	0.05	0.00	A
58	72.72	-0.35	-0.02	A	65.58	0.34	0.02	A	0.20	-0.04	0.00	A	1.94	-0.10	-0.01	A	0.01	0.01	0.00	A	0.19	0.15	0.01	A	6.56	-0.35	-0.02	A
59	743.69	1.28	0.07	B>	20.08	0.21	0.01	A	19.07	-0.40	-0.03	A	0.00	0.00	0.00	A	7.44	-0.42	-0.02	A	0.88	-0.35	-0.02	A	0.13	-0.05	0.00	A
60	8.35	0.13	0.01	A	2.23	-0.07	0.00	A	32.53	-0.51	-0.03	A	24.06	0.41	0.03	A	0.46	0.11	0.00	A	1.50	0.51	0.03	A	1.05	-0.16	-0.01	A
61	135.60	-0.42	-0.04	A	42.08	-0.24	-0.02	A	6.48	0.20	0.02	A	0.97	-0.07	-0.01	A	0.58	0.09	0.01	A	1.41	-0.36	-0.03	A	1.29	0.14	0.01	A
62	170.39	0.58	0.03	A	15.03	-0.17	-0.01	A	10.97	-0.29	-0.02	A	13.93	-0.28	-0.02	A	0.17	-0.07	0.00	A	1.01	-0.37	-0.02	A	1.09	-0.15	-0.01	A
63	31.13	0.30	0.01	A	9.00	0.16	0.01	A	0.84	0.10	0.00	A	3.34	0.17	0.01	A	16.28	0.93	0.02	A	1.66	0.66	0.02	A	0.01	-0.02	0.00	A
64	19.80	0.24	0.01	A	14.30	0.21	0.01	A	11.48	-0.36	-0.02	A	2.97	-0.16	-0.01	A	5.94	0.56	0.01	A	0.14	-0.19	-0.01	A	0.00	-0.01	0.00	A
65	164.91	0.48	0.04	A	100.94	-0.38	-0.03	A	0.62	-0.06	-0.01	A	80.47	-0.61	-0.05	A	2.69	0.20	0.01	A	4.32	-0.64	-0.05	A	2.26	0.19	0.02	A
66	122.63	-0.42	-0.03	A	71.49	-0.33	-0.03	A	0.14	0.03	0.00	A	15.15	-0.28	-0.02	A	3.48	0.22	0.02	A	0.03	-0.06	0.00	A	0.89	0.12	0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.3
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 4

	Reference: Male N= 41623 Focal: Female N= 40185				Reference: Hispanic N= 46208 Focal: Non Hispanic N= 35715				Reference: White N= 65601 Focal: Africa American N= 4707				Reference: White N= 65601 Focal: Native American N= 6110				Reference: White N= 65601 Focal: Asian N= 2415				Reference: White N= 65601 Focal: Hawaii N= 264				Reference: White N= 65601 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	35.18	0.28	0.01	A	22.99	-0.23	-0.01	A	0.59	0.07	0.00	A	2.06	-0.12	-0.01	A	0.32	-0.10	0.00	A	0.17	0.19	0.01	A	1.85	0.23	0.01	A
2	101.30	-0.43	-0.03	A	3.74	-0.08	-0.01	A	34.77	-0.49	-0.04	A	24.65	-0.37	-0.03	A	1.39	-0.17	-0.01	A	5.19	-0.83	-0.05	A	7.96	-0.40	-0.03	A
3	63.94	-0.35	-0.02	A	87.07	-0.41	-0.03	A	5.94	-0.22	-0.02	A	59.50	-0.59	-0.04	A	6.33	0.41	0.02	A	0.51	-0.29	-0.02	A	0.07	0.04	0.00	A
4	3.09	-0.06	-0.01	A	58.35	-0.27	-0.03	A	30.07	-0.41	-0.04	A	10.53	-0.22	-0.02	A	0.08	-0.03	0.00	A	0.63	0.24	0.02	A	6.97	0.31	0.03	A
5	209.96	-0.56	-0.04	A	600.02	-0.96	-0.07	A	35.42	-0.51	-0.04	A	41.80	-0.50	-0.03	A	0.18	-0.05	0.00	A	0.17	-0.14	-0.01	A	0.05	0.03	0.00	A
6	1.51	0.08	0.00	A	3.80	-0.13	0.00	A	13.85	-0.45	-0.02	A	17.13	-0.43	-0.02	A	1.47	-0.29	0.00	A	0.10	-0.19	0.00	A	0.14	-0.09	0.00	A
7	149.83	0.83	0.02	A	5.63	-0.16	0.00	A	33.62	-0.70	-0.02	A	12.19	-0.37	-0.01	A	0.01	0.03	0.00	A	0.05	0.15	0.00	A	0.11	0.08	0.00	A
8	198.45	0.59	0.04	A	176.31	0.57	0.04	A	5.47	0.20	0.01	A	12.60	0.27	0.02	A	26.20	0.80	0.04	A	1.77	0.52	0.03	A	0.00	-0.01	0.00	A
9	14.00	0.14	0.01	A	51.51	-0.27	-0.02	A	0.34	-0.05	0.00	A	0.08	0.02	0.00	A	18.58	0.47	0.04	A	0.38	-0.20	-0.02	A	2.62	0.20	0.02	A
10	0.14	-0.01	0.00	A	18.67	0.16	0.01	A	0.28	0.04	0.00	A	0.16	0.03	0.00	A	0.18	-0.05	0.00	A	0.61	0.24	0.02	A	0.10	0.04	0.00	A
11	2.41	0.06	0.00	A	16.50	0.16	0.01	A	11.10	0.27	0.02	A	9.04	0.21	0.02	A	50.12	0.98	0.06	A	7.90	1.07	0.07	B>	0.59	0.10	0.01	A
12	8.62	-0.13	-0.01	A	3.29	-0.08	-0.01	A	16.37	-0.35	-0.03	A	0.54	0.06	0.00	A	2.11	0.22	0.01	A	3.72	0.82	0.04	A	0.98	-0.15	-0.01	A
13	68.18	0.29	0.03	A	214.76	0.53	0.05	A	5.60	-0.18	-0.02	A	25.53	0.34	0.03	A	0.00	0.00	0.00	A	1.57	0.39	0.04	A	2.58	-0.20	-0.02	A
14	57.43	-0.30	-0.02	A	354.70	-0.75	-0.05	A	1.44	0.10	0.01	A	21.63	-0.37	-0.02	A	87.17	1.10	0.08	B>	0.01	-0.03	0.00	A	2.90	0.23	0.02	A
15	1.85	-0.06	0.00	A	14.24	0.16	0.01	A	4.79	-0.19	-0.01	A	0.07	-0.02	0.00	A	4.19	0.31	0.01	A	0.77	0.35	0.02	A	0.42	0.10	0.01	A
16	376.21	0.66	0.07	A	241.01	0.54	0.05	A	0.45	0.05	0.00	A	16.05	0.26	0.03	A	18.80	0.46	0.04	A	0.01	-0.02	0.00	A	1.75	-0.15	-0.02	A
17	109.50	0.38	0.03	A	83.31	-0.34	-0.03	A	3.83	-0.15	-0.01	A	7.51	-0.18	-0.02	A	1.70	0.16	0.01	A	0.09	0.10	0.01	A	0.77	-0.11	-0.01	A
18	547.85	1.10	0.06	B>	28.09	-0.25	-0.01	A	4.68	-0.20	-0.01	A	15.35	-0.30	-0.02	A	1.38	0.21	0.01	A	3.40	-0.74	-0.04	A	2.47	0.26	0.01	A
19	192.59	0.66	0.03	A	3.98	-0.09	0.00	A	3.21	-0.17	-0.01	A	13.80	-0.29	-0.02	A	2.32	0.27	0.01	A	0.24	0.22	0.01	A	1.74	0.22	0.01	A
20	4.61	-0.09	-0.01	A	2.72	-0.07	0.00	A	1.68	-0.11	-0.01	A	2.19	0.11	0.01	A	21.43	0.76	0.03	A	4.06	0.79	0.05	A	0.83	0.13	0.01	A
21	26.18	0.21	0.01	A	25.78	-0.21	-0.02	A	0.05	0.02	0.00	A	4.62	0.16	0.01	A	0.16	0.05	0.00	A	0.29	-0.19	-0.01	A	0.00	-0.01	0.00	A
22	1.85	0.05	0.00	A	45.65	0.26	0.02	A	16.19	0.32	0.03	A	0.55	-0.05	0.00	A	18.37	0.58	0.03	A	0.04	0.07	0.01	A	0.06	-0.03	0.00	A
23	68.91	0.36	0.02	A	260.73	-0.69	-0.05	A	2.73	-0.14	-0.01	A	83.63	-0.66	-0.05	A	4.72	-0.33	-0.01	A	0.00	0.00	0.00	A	4.67	0.34	0.02	A
24	5.88	-0.10	-0.01	A	1.87	0.06	0.00	A	98.52	-0.80	-0.06	A	43.67	0.51	0.04	A	0.06	-0.03	0.00	A	0.01	-0.04	0.00	A	0.48	-0.10	-0.01	A
25	70.51	0.31	0.03	A	171.21	-0.49	-0.04	A	10.52	-0.26	-0.02	A	95.72	-0.72	-0.06	A	0.55	-0.08	-0.01	A	2.17	-0.46	-0.04	A	0.19	0.06	0.00	A
26	23.77	0.22	0.01	A	4.85	-0.10	-0.01	A	0.07	-0.02	0.00	A	5.11	-0.17	-0.01	A	1.45	-0.18	-0.01	A	0.00	0.00	0.00	A	2.50	-0.23	-0.01	A
27	13.39	0.18	0.01	A	5.74	-0.12	-0.01	A	1.83	-0.13	-0.01	A	0.01	0.01	0.00	A	4.13	0.38	0.01	A	0.76	0.40	0.02	A	2.09	0.24	0.01	A
28	54.45	0.30	0.02	A	91.64	0.40	0.03	A	3.24	-0.15	-0.01	A	0.44	0.05	0.00	A	0.29	0.08	0.00	A	0.49	0.27	0.02	A	1.77	-0.18	-0.01	A
29	5.17	0.09	0.01	A	29.03	-0.22	-0.02	A	0.00	0.00	0.00	A	30.98	-0.41	-0.03	A	0.02	-0.02	0.00	A	0.00	0.00	0.00	A	1.44	-0.16	-0.01	A
30	241.61	0.86	0.03	A	0.91	0.05	0.00	A	3.53	0.20	0.01	A	0.42	0.06	0.00	A	2.95	0.38	0.01	A	0.77	0.47	0.02	A	2.58	0.32	0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.3 (continued)
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 4

	Reference: Male N= 41623 Focal: Female N= 40185				Reference: Hispanic N= 46208 Focal: Non Hispanic N= 35715				Reference: White N= 65601 Focal: Africa American N= 4707				Reference: White N= 65601 Focal: Native American N= 6110				Reference: White N= 65601 Focal: Asian N= 2415				Reference: White N= 65601 Focal: Hawaii N= 264				Reference: White N= 65601 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	8.49	-0.10	-0.01	A	0.39	0.02	0.00	A	8.77	-0.23	-0.02	A	0.12	0.02	0.00	A	23.91	0.53	0.05	A	0.39	-0.20	-0.02	A	5.21	0.27	0.03	A
32	252.52	-0.62	-0.05	A	56.43	-0.30	-0.02	A	6.51	-0.20	-0.02	A	25.65	-0.35	-0.03	A	5.92	0.33	0.02	A	0.07	0.10	0.01	A	0.04	0.03	0.00	A
33	39.72	0.23	0.02	A	22.22	-0.18	-0.01	A	0.01	-0.01	0.00	A	10.36	-0.23	-0.02	A	15.32	0.45	0.04	A	0.18	0.14	0.01	A	0.49	0.09	0.01	A
34	656.82	-0.98	-0.08	A	403.55	-0.77	-0.06	A	2.02	-0.11	-0.01	A	24.02	-0.36	-0.03	A	3.73	0.23	0.02	A	1.19	0.39	0.03	A	0.31	-0.07	-0.01	A
35	127.42	-0.50	-0.03	A	141.73	-0.52	-0.03	A	40.95	-0.55	-0.04	A	39.22	-0.46	-0.04	A	4.30	-0.31	-0.01	A	0.01	0.04	0.00	A	2.70	0.25	0.01	A
36	179.52	-0.50	-0.04	A	2.08	-0.05	0.00	A	0.80	0.07	0.01	A	9.10	0.21	0.02	A	16.64	0.50	0.04	A	0.00	0.00	0.00	A	7.29	0.34	0.03	A
37	5.51	0.10	0.01	A	19.70	0.19	0.01	A	0.42	-0.06	0.00	A	2.18	-0.11	-0.01	A	0.58	-0.11	-0.01	A	0.32	0.24	0.01	A	0.36	-0.09	-0.01	A
38	0.03	-0.01	0.00	A	27.86	0.21	0.01	A	1.43	0.10	0.01	A	4.50	0.15	0.01	A	0.48	0.08	0.01	A	2.11	-0.48	-0.04	A	1.90	0.18	0.01	A
39	9.94	0.15	0.01	A	41.45	0.32	0.02	A	4.15	0.20	0.01	A	5.03	0.19	0.01	A	11.47	0.67	0.02	A	0.31	0.25	0.01	A	1.98	-0.24	-0.01	A
40	160.97	0.50	0.04	A	93.73	-0.38	-0.03	A	7.24	-0.22	-0.02	A	21.27	-0.33	-0.03	A	2.64	0.22	0.01	A	1.82	-0.51	-0.03	A	0.06	-0.03	0.00	A
41	216.49	-0.51	-0.05	A	0.00	0.00	0.00	A	8.03	-0.21	-0.02	A	2.75	-0.11	-0.01	A	2.69	0.17	0.02	A	0.88	0.28	0.03	A	0.29	0.06	0.01	A
42	9.19	0.14	0.01	A	17.50	-0.19	-0.01	A	0.07	-0.02	0.00	A	11.00	-0.26	-0.02	A	0.30	-0.09	0.00	A	0.16	-0.17	-0.01	A	0.96	-0.16	-0.01	A
43	44.49	0.28	0.02	A	4.25	0.09	0.01	A	18.16	-0.36	-0.03	A	29.67	-0.40	-0.03	A	3.73	0.29	0.01	A	0.19	-0.15	-0.01	A	0.23	0.07	0.00	A
44	9.93	0.12	0.01	A	1.41	0.04	0.00	A	40.02	-0.50	-0.04	A	0.01	-0.01	0.00	A	1.20	-0.13	-0.01	A	1.28	-0.37	-0.03	A	0.94	-0.12	-0.01	A
45	71.65	-0.38	-0.02	A	7.75	-0.12	-0.01	A	0.41	-0.06	0.00	A	37.14	-0.47	-0.03	A	0.09	-0.05	0.00	A	0.05	0.09	0.00	A	0.24	-0.07	0.00	A
46	28.66	-0.18	-0.02	A	113.11	-0.37	-0.03	A	0.43	-0.05	0.00	A	8.11	-0.18	-0.02	A	2.41	-0.17	-0.01	A	2.08	0.44	0.04	A	1.01	-0.12	-0.01	A
47	81.71	-0.36	-0.03	A	33.21	0.23	0.02	A	12.61	-0.29	-0.02	A	2.55	0.12	0.01	A	0.60	-0.11	-0.01	A	0.31	0.20	0.01	A	5.27	-0.31	-0.02	A
48	103.40	0.47	0.03	A	132.18	0.54	0.03	A	2.08	-0.13	-0.01	A	0.03	-0.01	0.00	A	6.07	-0.38	-0.02	A	0.22	-0.20	-0.01	A	1.60	-0.20	-0.01	A
49	11.51	-0.14	-0.01	A	13.95	-0.16	-0.01	A	27.06	-0.43	-0.03	A	1.69	0.10	0.01	A	0.06	0.03	0.00	A	0.27	-0.20	-0.01	A	0.60	-0.11	-0.01	A
50	136.39	-0.60	-0.03	A	282.37	-0.86	-0.04	A	17.04	-0.41	-0.02	A	75.45	-0.73	-0.05	A	6.63	-0.50	-0.01	A	4.05	-0.83	-0.04	A	0.09	-0.05	0.00	A
51	118.95	-0.38	-0.04	A	1.99	-0.05	0.00	A	2.46	0.12	0.01	A	3.22	-0.12	-0.01	A	3.32	0.19	0.02	A	0.01	-0.02	0.00	A	1.74	0.16	0.01	A
52	91.01	0.52	0.02	A	0.98	-0.05	0.00	A	8.35	-0.30	-0.01	A	5.42	-0.21	-0.01	A	2.33	-0.29	-0.01	A	9.79	-1.31	-0.06	B<	0.20	0.09	0.00	A
53	23.06	0.19	0.01	A	2.66	0.06	0.01	A	15.56	0.32	0.03	A	4.69	-0.16	-0.01	A	5.27	0.30	0.02	A	2.74	-0.59	-0.04	A	1.47	0.16	0.01	A
54	103.94	-0.39	-0.03	A	36.64	-0.24	-0.02	A	2.08	-0.12	-0.01	A	7.70	-0.19	-0.02	A	1.93	0.18	0.01	A	0.01	0.04	0.00	A	3.37	0.25	0.02	A
55	151.71	0.45	0.04	A	128.56	-0.42	-0.04	A	4.63	0.17	0.02	A	81.31	-0.61	-0.06	A	3.26	-0.21	-0.02	A	2.34	0.51	0.04	A	0.11	0.04	0.00	A
56	2.94	0.06	0.01	A	122.99	-0.41	-0.03	A	0.02	-0.01	0.00	A	42.04	-0.47	-0.04	A	0.00	0.01	0.00	A	1.03	0.31	0.03	A	0.51	-0.09	-0.01	A
57	67.19	-0.31	-0.02	A	0.06	-0.01	0.00	A	8.39	-0.25	-0.02	A	11.54	0.26	0.02	A	30.12	0.60	0.05	A	2.37	0.51	0.04	A	2.17	0.19	0.02	A
58	34.59	0.22	0.02	A	66.44	0.31	0.03	A	6.16	-0.19	-0.02	A	6.59	0.18	0.02	A	0.02	-0.02	0.00	A	0.01	0.04	0.00	A	3.63	-0.24	-0.02	A
59	140.08	0.54	0.03	A	0.66	-0.04	0.00	A	1.80	0.13	0.01	A	14.58	-0.30	-0.02	A	0.66	0.13	0.00	A	0.20	0.19	0.01	A	0.30	0.09	0.00	A
60	21.76	-0.20	-0.01	A	7.59	0.12	0.01	A	0.04	-0.02	0.00	A	4.26	0.16	0.01	A	0.45	0.10	0.00	A	1.25	-0.43	-0.03	A	0.15	0.06	0.00	A
61	107.61	0.49	0.02	A	17.49	0.20	0.01	A	0.79	0.09	0.00	A	0.21	-0.04	0.00	A	0.52	0.12	0.00	A	3.07	-0.67	-0.04	A	0.09	-0.05	0.00	A
62	4.53	-0.08	-0.01	A	110.00	0.41	0.03	A	20.03	0.37	0.03	A	12.62	0.27	0.02	A	32.73	0.61	0.06	A	4.11	0.64	0.05	A	0.38	-0.08	-0.01	A
63	170.90	0.59	0.03	A	186.25	0.62	0.04	A	3.88	-0.18	-0.01	A	59.73	0.62	0.04	A	0.49	0.11	0.00	A	0.09	0.12	0.01	A	3.90	-0.30	-0.02	A
64	8.42	0.10	0.01	A	13.78	-0.13	-0.01	A	6.44	0.19	0.02	A	9.79	-0.21	-0.02	A	22.68	0.54	0.05	A	1.39	0.37	0.03	A	3.19	0.21	0.02	A
65	0.01	0.00	0.00	A	12.04	-0.17	-0.01	A	4.24	-0.19	-0.01	A	0.05	-0.02	0.00	A	8.63	-0.49	-0.02	A	3.42	0.87	0.04	A	1.44	0.20	0.01	A
66	4.17	-0.08	-0.01	A	57.64	0.31	0.02	A	5.83	-0.20	-0.02	A	16.27	0.29	0.02	A	3.69	0.26	0.01	A	3.17	-0.62	-0.04	A	1.59	-0.17	-0.01	A
67	2.72	-0.07	0.00	A	3.07	0.08	0.01	A	0.79	0.08	0.01	A	0.07	0.02	0.00	A	7.30	0.47	0.02	A	0.93	-0.40	-0.02	A	0.25	-0.08	0.00	A
68	258.66	0.60	0.05	A	75.98	0.33	0.03	A	11.65	-0.26	-0.02	A	1.07	-0.07	-0.01	A	0.12	-0.04	0.00	A	1.16	0.38	0.03	A	7.48	-0.34	-0.03	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.4
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 5

	Reference: Male N= 42017 Focal: Female N= 40286				Reference: Hispanic N= 46559 Focal: Non Hispanic N= 35825				Reference: White N= 66140 Focal: Africa American N= 4647				Reference: White N= 66140 Focal: Native American N= 6024				Reference: White N= 66140 Focal: Asian N= 2514				Reference: White N= 66140 Focal: Hawaii N= 278				Reference: White N= 66140 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	204.52	-0.55	-0.04	A	308.34	-0.68	-0.06	A	17.79	-0.33	-0.03	A	25.45	-0.35	-0.03	A	34.71	-0.68	-0.05	A	20.30	-1.37	-0.11	B<	0.69	-0.11	-0.01	A
2	8.79	-0.12	-0.01	A	43.95	-0.26	-0.02	A	3.34	-0.15	-0.01	A	24.83	-0.36	-0.03	A	5.64	0.33	0.02	A	0.01	-0.04	0.00	A	0.04	0.03	0.00	A
3	59.17	0.33	0.02	A	3.94	0.09	0.01	A	0.87	-0.08	-0.01	A	1.28	0.09	0.01	A	12.45	0.55	0.02	A	1.71	-0.47	-0.03	A	2.01	-0.21	-0.01	A
4	3.97	-0.08	-0.01	A	4.97	0.09	0.01	A	0.30	-0.04	0.00	A	1.02	0.07	0.01	A	12.56	0.47	0.03	A	0.17	0.14	0.01	A	1.60	-0.17	-0.01	A
5	285.17	-0.69	-0.05	A	154.73	-0.53	-0.03	A	5.44	-0.22	-0.01	A	26.90	-0.45	-0.03	A	3.34	-0.20	-0.02	A	0.02	0.05	0.00	A	3.19	-0.25	-0.02	A
6	372.93	-0.86	-0.05	A	22.14	-0.21	-0.01	A	10.64	-0.29	-0.02	A	10.84	-0.25	-0.02	A	0.00	0.00	0.00	A	2.55	-0.66	-0.03	A	0.17	0.07	0.00	A
7	434.52	-0.80	-0.06	A	80.58	-0.35	-0.03	A	64.27	-0.63	-0.06	A	0.68	-0.06	0.00	A	0.60	-0.10	-0.01	A	0.93	-0.33	-0.02	A	0.05	-0.03	0.00	A
8	247.90	0.81	0.04	A	27.87	0.27	0.01	A	2.16	-0.15	-0.01	A	0.22	0.04	0.00	A	15.96	0.86	0.02	A	0.07	-0.13	0.00	A	0.06	0.05	0.00	A
9	373.88	-0.73	-0.06	A	233.81	-0.58	-0.04	A	25.97	-0.42	-0.03	A	25.04	-0.37	-0.03	A	2.96	0.19	0.02	A	0.32	0.18	0.01	A	1.18	-0.14	-0.01	A
10	186.81	0.52	0.04	A	19.64	0.17	0.01	A	0.04	0.02	0.00	A	20.30	0.32	0.03	A	29.48	0.70	0.04	A	2.86	0.56	0.04	A	0.18	-0.06	0.00	A
11	13.90	0.14	0.01	A	97.65	-0.39	-0.03	A	0.96	0.08	0.01	A	26.09	-0.36	-0.03	A	3.17	-0.23	-0.01	A	0.48	0.24	0.02	A	0.89	0.13	0.01	A
12	50.54	0.28	0.02	A	73.54	0.35	0.03	A	1.72	-0.11	-0.01	A	35.03	0.43	0.04	A	4.36	0.29	0.02	A	0.27	-0.18	-0.01	A	0.20	-0.06	0.00	A
13	110.97	0.46	0.03	A	0.73	0.04	0.00	A	1.84	-0.12	-0.01	A	4.51	-0.16	-0.01	A	0.42	-0.10	0.00	A	0.32	0.24	0.01	A	7.55	-0.41	-0.02	A
14	8.27	-0.14	-0.01	A	5.01	-0.11	-0.01	A	21.14	-0.42	-0.03	A	11.03	0.28	0.02	A	4.28	-0.34	-0.01	A	1.81	0.67	0.03	A	0.34	-0.10	0.00	A
15	63.43	-0.32	-0.02	A	60.75	-0.32	-0.02	A	0.57	-0.06	0.00	A	17.00	-0.31	-0.02	A	23.16	0.69	0.03	A	12.82	1.32	0.09	B>	0.66	-0.11	-0.01	A
16	75.39	0.39	0.02	A	87.43	-0.42	-0.03	A	2.88	-0.15	-0.01	A	14.52	-0.30	-0.02	A	0.72	-0.13	-0.01	A	2.51	-0.63	-0.03	A	0.93	0.16	0.01	A
17	13.82	0.15	0.01	A	0.73	0.04	0.00	A	14.74	-0.32	-0.03	A	2.10	-0.11	-0.01	A	1.22	0.15	0.01	A	0.23	0.18	0.01	A	2.28	-0.21	-0.01	A
18	241.78	0.59	0.05	A	46.04	-0.26	-0.02	A	0.72	0.07	0.01	A	40.12	-0.45	-0.04	A	2.75	-0.20	-0.01	A	0.01	0.03	0.00	A	0.00	0.00	0.00	A
19	48.30	-0.28	-0.02	A	3.59	0.08	0.01	A	0.29	0.05	0.00	A	0.03	-0.01	0.00	A	7.97	0.39	0.02	A	0.16	0.14	0.01	A	0.00	-0.01	0.00	A
20	0.25	0.03	0.00	A	0.16	0.02	0.00	A	29.23	-0.54	-0.03	A	2.41	-0.14	-0.01	A	7.13	0.58	0.01	A	0.04	0.11	0.00	A	0.57	-0.14	-0.01	A
21	36.31	0.24	0.02	A	8.14	0.11	0.01	A	15.99	0.33	0.03	A	0.12	-0.02	0.00	A	24.38	0.68	0.04	A	0.00	0.01	0.00	A	0.20	-0.06	0.00	A
22	389.06	-0.72	-0.06	A	56.06	-0.28	-0.02	A	8.21	-0.22	-0.02	A	15.22	-0.27	-0.02	A	0.01	0.01	0.00	A	2.53	0.52	0.04	A	0.01	0.01	0.00	A
23	29.91	0.21	0.02	A	0.11	0.01	0.00	A	4.30	0.16	0.01	A	17.03	-0.28	-0.03	A	29.28	0.72	0.04	A	0.01	0.03	0.00	A	0.95	0.13	0.01	A
24	11.78	-0.23	-0.01	A	2.11	0.10	0.00	A	17.29	-0.51	-0.02	A	0.11	0.04	0.00	A	1.20	0.27	0.00	A	0.12	0.23	0.00	A	0.24	-0.11	0.00	A
25	34.31	-0.23	-0.02	A	17.69	-0.17	-0.01	A	0.90	0.08	0.01	A	4.91	-0.16	-0.01	A	27.24	0.74	0.04	A	1.92	0.47	0.03	A	0.08	0.04	0.00	A
26	221.53	0.81	0.03	A	27.68	0.29	0.01	A	0.35	-0.06	0.00	A	5.37	0.22	0.01	A	2.27	-0.29	-0.01	A	0.95	-0.47	-0.02	A	8.48	-0.53	-0.02	A
27	131.54	-0.41	-0.04	A	16.59	-0.15	-0.01	A	1.13	-0.08	-0.01	A	0.01	0.01	0.00	A	0.49	0.07	0.01	A	0.82	-0.28	-0.03	A	0.76	0.11	0.01	A
28	127.17	-0.44	-0.03	A	16.60	0.16	0.01	A	2.21	-0.12	-0.01	A	1.81	-0.10	-0.01	A	0.33	-0.08	0.00	A	2.03	-0.50	-0.03	A	1.96	-0.19	-0.01	A
29	8.15	0.15	0.01	A	0.01	0.00	0.00	A	2.47	-0.16	-0.01	A	0.23	-0.04	0.00	A	0.14	-0.08	0.00	A	0.07	0.13	0.00	A	0.01	0.02	0.00	A
30	391.33	0.92	0.05	A	1.24	-0.05	0.00	A	2.74	-0.15	-0.01	A	41.56	-0.50	-0.03	A	1.28	0.20	0.01	A	2.38	-0.63	-0.03	A	8.96	-0.49	-0.02	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.4 (continued)
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 5

	Reference: Male N= 42017 Focal: Female N= 40286				Reference: Hispanic N= 46559 Focal: Non Hispanic N= 35825				Reference: White N= 66140 Focal: Africa American N= 4647				Reference: White N= 66140 Focal: Native American N= 6024				Reference: White N= 66140 Focal: Asian N= 2514				Reference: White N= 66140 Focal: Hawaii N= 278				Reference: White N= 66140 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	0.60	0.04	0.00	A	0.01	0.00	0.00	A	2.50	-0.14	-0.01	A	6.48	-0.20	-0.01	A	0.00	0.01	0.00	A	0.05	-0.09	0.00	A	0.06	0.04	0.00	A
32	41.84	0.46	0.01	A	2.45	0.11	0.00	A	14.03	-0.47	-0.02	A	11.89	0.43	0.01	A	10.61	-0.83	-0.01	A	3.47	-1.11	-0.02	A	1.81	-0.33	-0.01	A
33	531.48	0.89	0.07	A	11.03	0.13	0.01	A	29.22	-0.44	-0.04	A	1.06	0.07	0.01	A	3.11	0.22	0.01	A	0.02	0.04	0.00	A	0.28	0.07	0.01	A
34	138.59	0.52	0.03	A	2.18	-0.07	0.00	A	12.99	-0.32	-0.02	A	48.00	-0.54	-0.04	A	3.59	-0.29	-0.01	A	16.13	-1.41	-0.08	B<	1.45	-0.19	-0.01	A
35	16.20	0.17	0.01	A	0.08	-0.01	0.00	A	4.46	0.18	0.01	A	0.60	-0.06	0.00	A	4.63	0.34	0.01	A	2.47	0.66	0.03	A	0.09	0.05	0.00	A
36	102.58	-0.35	-0.03	A	9.97	0.11	0.01	A	8.99	-0.23	-0.02	A	40.40	0.42	0.04	A	8.93	0.31	0.03	A	0.07	-0.08	-0.01	A	3.27	-0.22	-0.02	A
37	46.40	0.26	0.02	A	10.91	0.13	0.01	A	2.36	0.12	0.01	A	0.52	0.05	0.00	A	9.40	-0.35	-0.03	A	5.99	-0.79	-0.06	A	0.84	-0.12	-0.01	A
38	3.08	0.07	0.00	A	92.28	-0.40	-0.03	A	18.36	-0.36	-0.03	A	68.70	-0.60	-0.05	A	1.72	-0.19	-0.01	A	1.36	-0.44	-0.03	A	0.00	-0.01	0.00	A
39	101.30	0.38	0.03	A	48.84	0.27	0.02	A	0.90	-0.08	-0.01	A	0.00	0.00	0.00	A	0.79	-0.10	-0.01	A	0.27	-0.17	-0.01	A	0.74	-0.11	-0.01	A
40	69.75	0.28	0.03	A	2.29	0.05	0.01	A	1.53	-0.09	-0.01	A	5.27	0.15	0.01	A	0.23	-0.05	0.00	A	1.26	-0.34	-0.03	A	0.02	-0.02	0.00	A
41	42.32	0.22	0.02	A	8.66	-0.10	-0.01	A	2.56	0.12	0.01	A	3.52	0.13	0.01	A	2.47	-0.16	-0.02	A	0.38	-0.18	-0.02	A	0.37	0.07	0.01	A
42	344.82	-0.66	-0.06	A	29.90	-0.20	-0.02	A	10.21	-0.25	-0.02	A	10.82	-0.22	-0.02	A	7.82	0.31	0.03	A	0.05	0.07	0.01	A	0.40	0.08	0.01	A
43	92.13	0.35	0.03	A	14.32	0.14	0.01	A	44.22	0.52	0.05	A	0.27	-0.04	0.00	A	68.43	0.89	0.08	A	0.19	-0.13	-0.01	A	1.24	0.14	0.01	A
44	1.93	0.05	0.01	A	16.81	-0.15	-0.01	A	0.64	-0.07	-0.01	A	12.05	-0.26	-0.02	A	26.10	0.52	0.05	A	1.33	-0.36	-0.03	A	2.39	-0.20	-0.02	A
45	70.53	-0.37	-0.02	A	83.05	-0.40	-0.03	A	1.60	-0.11	-0.01	A	9.13	-0.23	-0.02	A	0.03	-0.03	0.00	A	3.05	-0.66	-0.04	A	0.89	0.15	0.01	A
46	28.06	0.18	0.02	A	47.44	-0.24	-0.02	A	0.16	0.03	0.00	A	8.14	-0.19	-0.02	A	2.37	0.16	0.01	A	0.47	-0.20	-0.02	A	2.41	0.18	0.02	A
47	0.03	0.01	0.00	A	3.41	0.07	0.01	A	3.96	0.16	0.01	A	9.09	0.22	0.02	A	4.73	0.28	0.02	A	0.71	0.29	0.02	A	0.17	0.06	0.00	A
48	41.45	0.29	0.02	A	64.81	0.37	0.02	A	0.81	0.08	0.01	A	0.00	0.00	0.00	A	0.10	0.05	0.00	A	0.01	-0.04	0.00	A	0.83	0.15	0.01	A
49	179.99	0.54	0.04	A	49.29	0.29	0.02	A	8.61	-0.24	-0.02	A	3.85	0.15	0.01	A	13.66	0.55	0.03	A	2.71	0.60	0.04	A	1.57	-0.17	-0.01	A
50	33.88	-0.21	-0.02	A	0.22	0.02	0.00	A	1.15	-0.09	-0.01	A	4.26	0.15	0.01	A	45.35	0.69	0.07	A	0.72	0.26	0.02	A	0.30	0.07	0.01	A
51	302.30	-0.63	-0.06	A	534.65	-0.85	-0.07	A	11.05	-0.26	-0.02	A	197.11	-0.96	-0.09	A	0.26	-0.06	0.00	A	3.40	-0.56	-0.05	A	0.03	0.02	0.00	A
52	15.38	0.14	0.01	A	1.91	0.05	0.00	A	0.33	0.05	0.00	A	10.32	0.23	0.02	A	0.28	0.06	0.00	A	2.76	-0.52	-0.04	A	0.02	0.02	0.00	A
53	179.04	-0.47	-0.04	A	10.07	-0.12	-0.01	A	18.54	-0.35	-0.03	A	0.37	0.04	0.00	A	0.01	-0.01	0.00	A	2.38	-0.49	-0.04	A	1.30	0.14	0.01	A
54	203.84	0.52	0.05	A	5.04	-0.08	-0.01	A	0.63	0.06	0.01	A	4.21	-0.14	-0.01	A	23.20	0.57	0.04	A	0.63	0.25	0.02	A	1.36	0.15	0.01	A
55	116.99	-0.41	-0.03	A	139.38	-0.45	-0.04	A	5.46	-0.19	-0.02	A	10.92	-0.23	-0.02	A	0.99	0.12	0.01	A	0.00	-0.02	0.00	A	2.98	0.23	0.02	A
56	3.80	0.08	0.00	A	152.60	-0.51	-0.04	A	0.18	-0.03	0.00	A	16.90	-0.30	-0.02	A	4.06	0.30	0.01	A	1.60	0.47	0.03	A	2.21	0.22	0.01	A
57	293.90	0.69	0.05	A	55.24	0.30	0.02	A	0.00	0.00	0.00	A	23.18	0.36	0.03	A	0.01	-0.01	0.00	A	0.14	0.14	0.01	A	0.51	0.10	0.01	A
58	232.57	0.52	0.05	A	8.17	0.10	0.01	A	2.03	-0.10	-0.01	A	27.74	0.35	0.03	A	3.92	-0.20	-0.02	A	1.81	-0.39	-0.04	A	1.65	0.15	0.01	A
59	300.71	0.68	0.05	A	17.18	0.16	0.01	A	12.95	-0.29	-0.02	A	1.85	-0.10	-0.01	A	0.73	-0.11	-0.01	A	0.16	-0.13	-0.01	A	3.33	-0.25	-0.02	A
60	49.88	-0.29	-0.02	A	0.01	0.00	0.00	A	0.72	-0.07	-0.01	A	10.40	0.24	0.02	A	22.14	0.71	0.03	A	4.90	-0.82	-0.05	A	0.08	-0.04	0.00	A
61	84.06	0.35	0.03	A	4.75	-0.08	-0.01	A	20.36	0.36	0.03	A	22.55	-0.34	-0.03	A	36.22	0.75	0.05	A	1.12	0.35	0.03	A	0.81	0.12	0.01	A
62	389.22	-0.76	-0.06	A	33.60	0.22	0.02	A	229.94	-1.17	-0.11	B<	115.63	0.78	0.07	A	0.20	0.06	0.00	A	3.26	-0.58	-0.05	A	8.60	-0.39	-0.03	A
63	431.60	-0.81	-0.06	A	168.66	-0.51	-0.04	A	17.13	-0.36	-0.03	A	5.82	-0.18	-0.01	A	8.37	0.34	0.03	A	0.72	-0.27	-0.02	A	0.26	0.07	0.01	A
64	194.09	0.55	0.04	A	20.18	0.18	0.02	A	0.50	-0.06	-0.01	A	15.73	0.29	0.02	A	24.41	0.71	0.04	A	0.55	0.26	0.02	A	0.58	0.11	0.01	A
65	102.65	0.39	0.03	A	4.44	0.08	0.01	A	13.54	0.30	0.02	A	8.39	-0.21	-0.02	A	57.90	1.00	0.06	B>	0.00	0.01	0.00	A	0.00	0.00	0.00	A
66	3.10	-0.07	-0.01	A	0.05	-0.01	0.00	A	7.73	-0.22	-0.02	A	0.38	0.04	0.00	A	4.93	0.31	0.02	A	3.68	0.70	0.05	A	4.30	-0.28	-0.02	A
67	121.76	0.61	0.02	A	23.14	0.27	0.01	A	3.67	-0.20	-0.01	A	16.23	-0.38	-0.02	A	0.13	0.07	0.00	A	2.88	-0.79	-0.03	A	3.59	-0.35	-0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.5
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 6

	Reference: Male N= 41626 Focal: Female N= 40308				Reference: Hispanic N= 47013 Focal: Non Hispanic N= 34997				Reference: White N= 65903 Focal: Africa American N= 4849				Reference: White N= 65903 Focal: Native American N= 6087				Reference: White N= 65903 Focal: Asian N= 2352				Reference: White N= 65903 Focal: Hawaii N= 259				Reference: White N= 65903 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	106.80	0.39	0.03	A	40.27	0.24	0.02	A	1.03	0.08	0.01	A	0.10	-0.02	0.00	A	9.75	0.40	0.03	A	0.39	0.21	0.02	A	0.15	-0.05	0.00	A
2	275.33	0.58	0.06	A	27.08	-0.19	-0.02	A	1.36	-0.09	-0.01	A	54.42	-0.50	-0.05	A	0.63	0.09	0.01	A	0.15	-0.12	-0.01	A	0.09	-0.04	0.00	A
3	0.30	0.02	0.00	A	1.55	-0.05	-0.01	A	1.44	0.10	0.01	A	0.99	0.07	0.01	A	8.06	0.31	0.03	A	2.71	-0.54	-0.05	A	0.72	0.11	0.01	A
4	367.43	-0.70	-0.06	A	5.40	0.09	0.01	A	10.33	0.24	0.02	A	1.71	-0.09	-0.01	A	5.85	0.30	0.02	A	0.05	-0.08	-0.01	A	3.80	-0.25	-0.02	A
5	4.89	-0.09	-0.01	A	23.13	0.19	0.01	A	2.42	-0.12	-0.01	A	13.79	0.27	0.02	A	1.12	-0.14	-0.01	A	0.50	-0.24	-0.02	A	2.12	-0.20	-0.01	A
6	53.95	0.31	0.02	A	6.12	0.10	0.01	A	13.64	0.31	0.02	A	15.87	-0.29	-0.02	A	6.92	0.41	0.02	A	0.36	0.22	0.01	A	2.61	0.23	0.02	A
7	10.62	0.15	0.01	A	10.08	0.14	0.01	A	0.27	0.05	0.00	A	0.17	0.03	0.00	A	1.41	0.21	0.01	A	0.42	-0.26	-0.01	A	0.87	0.15	0.01	A
8	13.06	0.16	0.01	A	4.96	0.10	0.01	A	8.38	-0.25	-0.02	A	18.86	0.35	0.02	A	2.50	0.28	0.01	A	1.30	0.52	0.03	A	1.60	-0.20	-0.01	A
9	466.78	-0.80	-0.07	A	8.83	-0.11	-0.01	A	0.17	-0.03	0.00	A	5.41	-0.16	-0.01	A	2.79	0.20	0.02	A	0.66	0.26	0.02	A	0.37	0.08	0.01	A
10	23.51	0.17	0.02	A	313.14	0.65	0.06	A	13.12	0.28	0.02	A	6.30	0.17	0.02	A	26.44	0.56	0.05	A	0.83	0.28	0.03	A	0.11	-0.04	0.00	A
11	23.73	-0.18	-0.02	A	10.89	-0.12	-0.01	A	10.42	-0.25	-0.02	A	6.05	0.17	0.02	A	1.07	-0.12	-0.01	A	1.42	0.40	0.03	A	4.31	0.26	0.02	A
12	0.72	0.03	0.00	A	19.33	-0.17	-0.02	A	6.59	-0.20	-0.02	A	5.34	-0.16	-0.01	A	6.62	0.32	0.02	A	0.73	-0.27	-0.02	A	0.08	0.04	0.00	A
13	1324.45	-1.52	-0.10	C<	467.80	-0.91	-0.06	A	39.10	-0.58	-0.04	A	30.25	-0.46	-0.03	A	7.95	0.37	0.02	A	2.02	-0.51	-0.04	A	0.11	-0.05	0.00	A
14	50.87	-0.27	-0.02	A	23.49	-0.18	-0.02	A	4.43	-0.16	-0.01	A	5.70	-0.16	-0.02	A	3.07	0.22	0.02	A	0.19	-0.15	-0.01	A	2.35	-0.20	-0.02	A
15	336.66	-0.67	-0.06	A	152.66	-0.45	-0.04	A	1.87	-0.10	-0.01	A	22.40	-0.32	-0.03	A	0.44	-0.08	-0.01	A	8.36	-0.95	-0.08	A	2.41	0.20	0.02	A
16	187.15	0.49	0.04	A	26.21	0.19	0.02	A	0.95	0.07	0.01	A	0.03	-0.01	0.00	A	20.36	0.57	0.04	A	0.00	-0.02	0.00	A	0.39	-0.08	-0.01	A
17	180.48	0.65	0.03	A	11.86	0.17	0.01	A	14.79	-0.35	-0.02	A	0.77	-0.07	0.00	A	0.01	0.02	0.00	A	0.41	-0.27	-0.01	A	0.40	-0.11	-0.01	A
18	231.30	-0.56	-0.05	A	425.27	-0.77	-0.06	A	53.60	-0.57	-0.05	A	68.58	-0.58	-0.05	A	21.96	-0.56	-0.04	A	4.02	-0.65	-0.05	A	0.00	0.00	0.00	A
19	218.41	0.55	0.05	A	18.17	0.16	0.01	A	1.13	0.08	0.01	A	0.30	0.04	0.00	A	36.95	0.78	0.05	A	4.70	0.73	0.06	A	1.53	-0.16	-0.01	A
20	12.62	0.13	0.01	A	28.64	-0.19	-0.02	A	5.35	-0.17	-0.02	A	3.11	-0.12	-0.01	A	2.35	0.18	0.01	A	0.42	0.21	0.02	A	0.36	0.08	0.01	A
21	1.36	0.05	0.00	A	0.82	-0.04	0.00	A	38.68	-0.49	-0.04	A	0.92	-0.07	-0.01	A	2.24	-0.20	-0.01	A	3.55	-0.63	-0.05	A	0.30	-0.08	-0.01	A
22	163.12	0.50	0.04	A	116.39	-0.42	-0.03	A	71.63	-0.66	-0.06	A	100.33	-0.70	-0.06	A	2.46	-0.21	-0.01	A	0.02	-0.04	0.00	A	0.82	0.12	0.01	A
23	5.20	0.11	0.00	A	0.05	-0.01	0.00	A	26.44	-0.48	-0.03	A	0.13	-0.03	0.00	A	0.46	-0.13	0.00	A	0.34	0.28	0.01	A	0.03	-0.03	0.00	A
24	306.20	0.70	0.05	A	79.83	0.36	0.03	A	5.18	0.19	0.01	A	2.21	-0.11	-0.01	A	8.50	0.43	0.02	A	0.78	0.33	0.02	A	0.34	0.08	0.01	A
25	22.00	-0.20	-0.01	A	27.10	0.23	0.02	A	16.56	-0.34	-0.03	A	0.93	0.07	0.01	A	0.08	0.05	0.00	A	0.25	-0.20	-0.01	A	1.91	-0.21	-0.01	A
26	364.59	0.83	0.05	A	13.68	-0.16	-0.01	A	9.46	0.27	0.02	A	10.54	-0.25	-0.02	A	15.59	0.68	0.03	A	0.44	-0.26	-0.02	A	0.59	0.12	0.01	A
27	24.89	0.26	0.01	A	13.91	0.19	0.01	A	3.78	-0.19	-0.01	A	8.40	-0.25	-0.02	A	0.00	0.01	0.00	A	0.12	0.18	0.01	A	2.64	0.31	0.01	A
28	57.20	-0.30	-0.02	A	7.05	0.11	0.01	A	21.30	-0.36	-0.03	A	4.31	-0.15	-0.01	A	0.74	-0.11	-0.01	A	0.00	0.00	0.00	A	0.06	-0.03	0.00	A
29	140.49	0.50	0.03	A	2.13	0.06	0.00	A	16.08	0.35	0.02	A	3.27	0.14	0.01	A	32.08	0.95	0.04	A	3.09	0.73	0.04	A	1.94	-0.20	-0.01	A
30	14.84	0.13	0.01	A	22.17	-0.17	-0.01	A	0.05	-0.02	0.00	A	1.66	0.08	0.01	A	0.02	0.01	0.00	A	0.09	-0.09	-0.01	A	1.05	0.12	0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.5 (continued)
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 6

	Reference: Male N= 41626 Focal: Female N= 40308				Reference: Hispanic N= 47013 Focal: Non Hispanic N= 34997				Reference: White N= 65903 Focal: Africa American N= 4849				Reference: White N= 65903 Focal: Native American N= 6087				Reference: White N= 65903 Focal: Asian N= 2352				Reference: White N= 65903 Focal: Hawaii N= 259				Reference: White N= 65903 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	10.27	-0.12	-0.01	A	18.87	-0.16	-0.01	A	1.34	-0.09	-0.01	A	20.64	-0.31	-0.03	A	14.64	0.49	0.03	A	2.72	-0.57	-0.05	A	1.25	-0.14	-0.01	A
32	30.14	0.23	0.01	A	5.18	0.10	0.01	A	3.96	-0.16	-0.01	A	6.05	-0.18	-0.01	A	2.35	0.23	0.01	A	2.76	0.67	0.04	A	0.28	0.08	0.01	A
33	10.71	-0.11	-0.01	A	190.79	-0.48	-0.04	A	12.86	-0.26	-0.03	A	28.46	-0.35	-0.03	A	5.27	-0.25	-0.02	A	8.04	-0.90	-0.08	A	0.07	-0.03	0.00	A
34	334.94	0.64	0.06	A	31.80	0.20	0.02	A	0.29	0.04	0.00	A	1.83	0.09	0.01	A	3.15	0.18	0.02	A	4.46	-0.67	-0.06	A	0.05	0.03	0.00	A
35	5.02	0.10	0.01	A	5.94	0.11	0.01	A	8.83	0.26	0.02	A	0.59	0.06	0.00	A	7.87	0.48	0.02	A	5.17	0.95	0.05	A	0.07	0.04	0.00	A
36	0.09	0.01	0.00	A	0.70	-0.03	0.00	A	8.52	-0.23	-0.02	A	0.27	0.04	0.00	A	0.44	-0.09	0.00	A	7.41	1.05	0.07	B>	1.27	-0.15	-0.01	A
37	74.67	-0.32	-0.03	A	238.73	-0.58	-0.05	A	8.95	-0.23	-0.02	A	3.05	-0.12	-0.01	A	4.22	0.28	0.02	A	0.07	-0.09	-0.01	A	3.26	0.24	0.02	A
38	78.29	0.31	0.03	A	6.49	0.09	0.01	A	1.75	0.10	0.01	A	4.98	0.15	0.01	A	35.04	0.70	0.06	A	0.05	-0.07	-0.01	A	3.49	-0.23	-0.02	A
39	481.10	0.97	0.06	A	15.22	0.17	0.01	A	53.32	-0.62	-0.04	A	19.32	0.35	0.02	A	0.49	0.11	0.00	A	0.14	-0.15	-0.01	A	2.57	-0.24	-0.01	A
40	28.48	0.18	0.02	A	5.93	0.09	0.01	A	0.00	0.00	0.00	A	24.76	0.33	0.03	A	15.17	0.40	0.04	A	0.01	0.03	0.00	A	8.74	-0.36	-0.03	A
41	222.31	0.60	0.04	A	11.14	0.14	0.01	A	4.53	-0.17	-0.01	A	0.25	-0.04	0.00	A	0.08	0.04	0.00	A	2.16	-0.52	-0.04	A	4.53	-0.30	-0.02	A
42	30.93	-0.21	-0.02	A	1.14	0.04	0.00	A	6.57	-0.20	-0.02	A	2.68	-0.11	-0.01	A	11.72	0.48	0.03	A	0.00	-0.01	0.00	A	1.35	-0.15	-0.01	A
43	51.21	0.30	0.02	A	52.04	0.31	0.02	A	25.80	-0.42	-0.03	A	50.83	0.54	0.04	A	0.16	0.06	0.00	A	0.11	-0.13	-0.01	A	0.36	-0.09	-0.01	A
44	4.19	0.09	0.00	A	8.07	0.13	0.01	A	0.00	0.00	0.00	A	0.04	0.02	0.00	A	2.97	0.30	0.01	A	0.40	-0.26	-0.01	A	1.15	0.17	0.01	A
45	292.84	-0.66	-0.05	A	110.29	-0.40	-0.03	A	138.47	-0.90	-0.08	A	28.34	-0.36	-0.03	A	19.42	-0.55	-0.04	A	1.08	-0.35	-0.03	A	9.44	-0.40	-0.03	A
46	109.03	-0.37	-0.03	A	33.98	-0.21	-0.02	A	0.04	0.02	0.00	A	0.48	-0.05	0.00	A	8.13	0.31	0.03	A	0.23	0.15	0.01	A	0.12	0.04	0.00	A
47	5.45	0.09	0.01	A	0.38	-0.02	0.00	A	13.32	0.28	0.03	A	2.47	-0.11	-0.01	A	12.67	0.46	0.03	A	0.04	0.07	0.01	A	0.17	0.05	0.00	A
48	156.89	0.63	0.03	A	4.21	0.10	0.01	A	3.62	0.19	0.01	A	1.12	-0.09	-0.01	A	0.01	0.02	0.00	A	0.52	0.34	0.01	A	0.04	0.04	0.00	A
49	18.94	-0.20	-0.01	A	6.61	0.12	0.01	A	3.43	0.17	0.01	A	36.07	-0.47	-0.03	A	6.72	0.50	0.01	A	0.00	-0.02	0.00	A	4.43	-0.34	-0.02	A
50	64.12	0.32	0.02	A	19.00	0.18	0.01	A	1.97	-0.11	-0.01	A	26.84	0.38	0.03	A	2.58	-0.22	-0.01	A	0.05	-0.08	-0.01	A	0.58	-0.10	-0.01	A
51	993.87	-1.24	-0.10	B<	283.64	-0.66	-0.05	A	16.07	-0.33	-0.03	A	12.52	-0.27	-0.02	A	0.44	-0.08	-0.01	A	0.06	0.09	0.01	A	0.07	0.04	0.00	A
52	18.55	0.18	0.01	A	14.62	-0.16	-0.01	A	1.69	-0.11	-0.01	A	0.72	-0.06	0.00	A	6.28	0.38	0.02	A	2.14	0.56	0.04	A	0.74	0.13	0.01	A
53	58.22	0.31	0.02	A	18.93	0.18	0.01	A	19.95	0.37	0.03	A	3.31	0.13	0.01	A	11.42	0.53	0.02	A	0.00	0.01	0.00	A	0.13	-0.05	0.00	A
54	35.76	-0.29	-0.01	A	6.36	0.12	0.01	A	9.01	0.28	0.02	A	7.73	-0.23	-0.02	A	3.21	0.35	0.01	A	2.76	0.80	0.03	A	0.24	-0.08	0.00	A
55	11.70	-0.12	-0.01	A	66.66	-0.29	-0.02	A	4.44	-0.16	-0.01	A	5.84	-0.16	-0.02	A	12.08	0.40	0.03	A	0.35	-0.19	-0.02	A	2.50	-0.19	-0.02	A
56	51.53	-0.28	-0.02	A	124.08	-0.43	-0.04	A	2.69	-0.13	-0.01	A	30.22	-0.40	-0.03	A	8.57	-0.37	-0.02	A	5.09	-0.77	-0.06	A	0.11	0.04	0.00	A
57	30.36	0.21	0.02	A	1.39	0.05	0.00	A	5.28	0.19	0.01	A	1.01	0.08	0.01	A	75.15	1.02	0.08	B>	0.00	0.02	0.00	A	0.21	-0.06	0.00	A
58	639.68	-1.08	-0.07	B<	44.62	-0.28	-0.02	A	14.20	-0.32	-0.02	A	40.76	-0.47	-0.04	A	4.28	0.32	0.01	A	0.03	-0.06	0.00	A	1.85	-0.20	-0.01	A
59	125.99	0.48	0.03	A	27.49	0.23	0.02	A	28.32	0.48	0.03	A	9.21	0.23	0.02	A	24.07	0.84	0.03	A	0.03	-0.07	0.00	A	0.65	0.12	0.01	A
60	123.81	-0.39	-0.04	A	21.97	0.17	0.01	A	3.54	-0.14	-0.01	A	4.66	0.15	0.01	A	3.36	-0.20	-0.02	A	1.34	0.37	0.03	A	4.18	0.25	0.02	A
61	1.28	0.04	0.00	A	37.57	0.22	0.02	A	0.48	-0.05	0.00	A	9.40	0.21	0.02	A	17.95	0.44	0.04	A	0.10	-0.10	-0.01	A	1.46	0.15	0.01	A
62	616.68	1.10	0.06	B>	40.01	0.28	0.02	A	6.85	0.23	0.02	A	9.85	0.25	0.02	A	26.72	0.91	0.03	A	3.36	0.82	0.04	A	0.53	-0.11	-0.01	A
63	31.10	0.22	0.02	A	118.16	-0.44	-0.03	A	7.08	-0.21	-0.02	A	55.74	-0.53	-0.04	A	3.04	-0.24	-0.01	A	0.79	-0.31	-0.02	A	0.72	-0.12	-0.01	A
64	314.59	0.71	0.05	A	10.55	-0.13	-0.01	A	1.45	-0.10	-0.01	A	13.03	-0.26	-0.02	A	11.19	-0.44	-0.03	A	0.26	0.19	0.01	A	0.92	0.14	0.01	A
65	47.88	0.31	0.02	A	0.32	-0.03	0.00	A	3.13	-0.16	-0.01	A	0.26	0.04	0.00	A	4.57	0.39	0.01	A	0.01	-0.04	0.00	A	1.06	-0.17	-0.01	A
66	0.03	0.01	0.00	A	21.10	-0.19	-0.01	A	23.74	-0.40	-0.03	A	9.99	-0.23	-0.02	A	0.34	0.09	0.00	A	0.17	0.16	0.01	A	0.15	0.06	0.00	A
67	90.58	-0.36	-0.03	A	74.70	-0.33	-0.02	A	26.77	0.41	0.03	A	8.05	-0.21	-0.02	A	6.53	0.30	0.02	A	2.93	-0.58	-0.05	A	0.30	0.07	0.01	A
68	270.23	0.68	0.05	A	52.67	-0.30	-0.02	A	1.58	-0.10	-0.01	A	38.22	-0.46	-0.04	A	2.04	0.21	0.01	A	2.69	-0.58	-0.04	A	1.47	-0.18	-0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.6
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 7

	Reference: Male N= 41591 Focal: Female N= 39806				Reference: Hispanic N= 46864 Focal: Non Hispanic N= 34635				Reference: White N= 65493 Focal: Africa American N= 4644				Reference: White N= 65493 Focal: Native American N= 6088				Reference: White N= 65493 Focal: Asian N= 2313				Reference: White N= 65493 Focal: Hawaii N= 270				Reference: White N= 65493 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	19.70	-0.16	-0.01	A	65.24	-0.30	-0.03	A	9.61	-0.24	-0.02	A	8.58	-0.20	-0.02	A	19.03	0.54	0.04	A	5.76	-0.77	-0.07	A	1.27	0.14	0.01	A
2	307.79	-0.78	-0.05	A	66.50	-0.36	-0.02	A	103.80	-0.85	-0.06	A	0.05	-0.02	0.00	A	0.04	0.03	0.00	A	1.09	-0.39	-0.02	A	0.05	0.03	0.00	A
3	152.06	-0.45	-0.04	A	8.56	0.11	0.01	A	6.30	0.19	0.02	A	1.05	0.07	0.01	A	26.09	0.62	0.05	A	1.59	-0.38	-0.04	A	0.95	-0.12	-0.01	A
4	9.22	0.11	0.01	A	8.70	0.11	0.01	A	16.21	0.31	0.03	A	1.82	0.09	0.01	A	33.55	0.68	0.05	A	0.04	-0.06	-0.01	A	0.42	0.08	0.01	A
5	148.12	0.42	0.04	A	1.88	-0.05	0.00	A	3.26	0.13	0.01	A	7.26	-0.18	-0.02	A	35.02	0.64	0.06	A	1.88	0.40	0.04	A	0.47	0.08	0.01	A
6	2.64	0.06	0.00	A	6.36	0.10	0.01	A	8.06	0.24	0.02	A	4.69	-0.15	-0.01	A	33.69	0.85	0.04	A	0.01	0.04	0.00	A	0.32	-0.08	-0.01	A
7	52.53	0.32	0.02	A	0.23	0.02	0.00	A	2.73	-0.15	-0.01	A	3.70	-0.15	-0.01	A	1.88	0.23	0.01	A	1.96	-0.53	-0.03	A	1.04	-0.16	-0.01	A
8	45.24	-0.30	-0.02	A	207.08	-0.65	-0.04	A	24.32	-0.43	-0.03	A	122.36	-0.83	-0.06	A	53.34	-1.17	-0.04	B<	2.25	-0.59	-0.03	A	1.00	0.16	0.01	A
9	181.35	0.79	0.03	A	2.34	-0.09	0.00	A	7.69	-0.31	-0.01	A	0.60	-0.07	0.00	A	3.86	-0.41	-0.01	A	0.08	0.15	0.00	A	0.13	0.07	0.00	A
10	302.27	0.77	0.04	A	1.12	0.05	0.00	A	0.08	-0.03	0.00	A	5.89	0.19	0.01	A	4.57	-0.32	-0.01	A	0.70	0.33	0.02	A	1.21	-0.17	-0.01	A
11	1.44	-0.05	0.00	A	6.68	0.12	0.01	A	23.50	-0.43	-0.03	A	31.44	0.44	0.03	A	0.00	0.00	0.00	A	0.93	-0.36	-0.02	A	3.12	-0.27	-0.02	A
12	157.77	0.50	0.04	A	1.54	0.05	0.00	A	25.50	-0.42	-0.03	A	0.01	-0.01	0.00	A	0.28	-0.07	0.00	A	0.02	0.05	0.00	A	0.75	-0.12	-0.01	A
13	52.32	-0.29	-0.02	A	17.30	-0.17	-0.01	A	25.66	-0.41	-0.03	A	0.65	0.06	0.00	A	0.33	0.08	0.00	A	0.01	0.05	0.00	A	3.13	-0.25	-0.02	A
14	0.16	0.01	0.00	A	0.31	0.02	0.00	A	1.87	0.11	0.01	A	19.49	-0.30	-0.03	A	59.68	1.09	0.06	B>	0.08	0.09	0.01	A	3.48	-0.24	-0.02	A
15	252.89	-0.66	-0.05	A	30.83	-0.23	-0.02	A	77.25	-0.73	-0.06	A	3.44	-0.13	-0.01	A	3.97	0.31	0.01	A	0.66	-0.29	-0.02	A	1.11	-0.15	-0.01	A
16	15.21	-0.20	-0.01	A	0.42	-0.03	0.00	A	14.35	-0.37	-0.02	A	16.07	-0.33	-0.02	A	0.49	-0.14	0.00	A	0.16	0.18	0.01	A	2.42	-0.27	-0.01	A
17	17.11	0.15	0.01	A	126.93	-0.43	-0.03	A	0.06	0.02	0.00	A	67.60	-0.61	-0.05	A	6.83	0.29	0.03	A	2.10	-0.45	-0.04	A	8.68	-0.37	-0.03	A
18	293.36	0.75	0.05	A	0.47	0.03	0.00	A	5.49	-0.21	-0.01	A	15.39	-0.30	-0.02	A	3.13	0.30	0.01	A	1.34	-0.44	-0.03	A	1.52	0.19	0.01	A
19	145.99	0.48	0.04	A	2.04	-0.06	0.00	A	31.66	0.48	0.04	A	7.26	-0.21	-0.02	A	50.18	1.03	0.06	B>	0.23	0.16	0.01	A	0.57	-0.10	-0.01	A
20	16.67	0.21	0.01	A	7.79	0.15	0.01	A	7.85	-0.28	-0.02	A	7.74	0.25	0.01	A	1.00	-0.20	-0.01	A	0.06	-0.11	0.00	A	1.88	0.25	0.01	A
21	125.94	0.48	0.03	A	12.68	-0.15	-0.01	A	0.29	-0.05	0.00	A	2.09	0.11	0.01	A	0.42	0.10	0.00	A	0.12	-0.13	-0.01	A	0.92	0.14	0.01	A
22	0.26	0.02	0.00	A	8.06	-0.12	-0.01	A	1.54	-0.11	-0.01	A	30.51	-0.42	-0.03	A	1.98	0.20	0.01	A	1.37	-0.42	-0.03	A	1.00	-0.14	-0.01	A
23	273.76	-0.83	-0.04	A	0.91	-0.05	0.00	A	18.23	-0.42	-0.02	A	8.84	-0.25	-0.02	A	10.89	-0.61	-0.02	A	0.72	-0.38	-0.02	A	0.59	0.13	0.01	A
24	17.48	-0.24	-0.01	A	29.89	-0.31	-0.01	A	32.06	-0.60	-0.03	A	5.67	-0.22	-0.01	A	7.30	-0.61	-0.01	A	1.86	-0.65	-0.02	A	0.69	-0.16	-0.01	A
25	269.58	-0.69	-0.05	A	4.03	-0.08	-0.01	A	16.69	-0.34	-0.03	A	1.45	0.09	0.01	A	0.03	0.03	0.00	A	1.50	0.46	0.03	A	0.00	-0.01	0.00	A
26	1.03	0.04	0.00	A	21.75	-0.20	-0.01	A	1.72	0.11	0.01	A	27.09	-0.38	-0.03	A	13.73	0.62	0.03	A	0.24	-0.16	-0.01	A	1.27	0.17	0.01	A
27	15.28	0.15	0.01	A	4.25	-0.08	-0.01	A	0.56	-0.06	0.00	A	9.86	0.22	0.02	A	0.06	-0.03	0.00	A	0.16	-0.13	-0.01	A	0.06	-0.03	0.00	A
28	88.78	0.43	0.02	A	2.39	0.07	0.00	A	1.40	-0.11	-0.01	A	27.75	-0.41	-0.03	A	7.06	-0.42	-0.02	A	0.20	0.18	0.01	A	1.37	-0.18	-0.01	A
29	337.93	-0.67	-0.06	A	42.11	-0.24	-0.02	A	2.18	-0.11	-0.01	A	1.99	-0.10	-0.01	A	0.01	0.01	0.00	A	0.04	0.06	0.01	A	0.89	0.12	0.01	A
30	511.89	-0.96	-0.06	A	235.22	-0.64	-0.05	A	0.39	-0.05	0.00	A	69.71	-0.62	-0.05	A	14.95	0.62	0.03	A	0.15	0.14	0.01	A	1.21	0.16	0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.6 (continued)
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 7

	Reference: Male N= 41591 Focal: Female N= 39806				Reference: Hispanic N= 46864 Focal: Non Hispanic N= 34635				Reference: White N= 65493 Focal: Africa American N= 4644				Reference: White N= 65493 Focal: Native American N= 6088				Reference: White N= 65493 Focal: Asian N= 2313				Reference: White N= 65493 Focal: Hawaii N= 270				Reference: White N= 65493 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	15.99	0.15	0.01	A	61.03	0.30	0.03	A	4.20	0.16	0.01	A	0.49	0.05	0.00	A	11.34	0.45	0.03	A	0.51	0.23	0.02	A	0.76	-0.11	-0.01	A
32	177.48	0.65	0.03	A	28.35	0.26	0.02	A	0.19	-0.04	0.00	A	0.11	0.03	0.00	A	3.29	0.35	0.01	A	0.36	-0.25	-0.01	A	11.22	-0.53	-0.03	A
33	86.44	0.50	0.02	A	1.91	0.07	0.00	A	2.09	0.15	0.01	A	2.95	-0.15	-0.01	A	9.24	0.71	0.01	A	0.00	-0.03	0.00	A	1.76	-0.25	-0.01	A
34	6.11	0.11	0.01	A	3.39	0.08	0.01	A	28.42	0.46	0.03	A	0.88	-0.07	-0.01	A	37.19	1.06	0.04	B>	0.77	0.32	0.02	A	0.21	0.07	0.00	A
35	88.40	0.41	0.02	A	37.77	0.27	0.02	A	3.53	-0.16	-0.01	A	1.39	-0.09	-0.01	A	11.10	0.57	0.02	A	0.67	0.31	0.02	A	0.26	-0.08	0.00	A
36	2.40	0.06	0.00	A	34.97	-0.23	-0.02	A	18.30	-0.35	-0.03	A	96.22	-0.71	-0.06	A	7.02	-0.34	-0.02	A	0.19	-0.14	-0.01	A	0.05	-0.03	0.00	A
37	23.49	-0.18	-0.02	A	13.17	0.14	0.01	A	8.57	-0.24	-0.02	A	10.45	0.23	0.02	A	21.13	0.55	0.04	A	2.24	0.45	0.04	A	0.02	0.02	0.00	A
38	1288.64	-1.37	-0.11	B<	363.71	-0.72	-0.06	A	1.44	-0.10	-0.01	A	18.21	-0.30	-0.03	A	0.01	-0.01	0.00	A	0.73	-0.28	-0.02	A	2.41	0.21	0.02	A
39	183.35	0.53	0.04	A	2.33	0.06	0.01	A	2.45	0.13	0.01	A	3.27	0.13	0.01	A	19.50	0.63	0.03	A	0.70	-0.28	-0.02	A	0.03	0.02	0.00	A
40	17.06	0.19	0.01	A	31.46	0.26	0.02	A	2.95	0.16	0.01	A	0.51	0.05	0.00	A	16.36	0.75	0.02	A	0.07	-0.10	-0.01	A	0.26	0.08	0.00	A
41	8.44	-0.10	-0.01	A	309.03	0.64	0.06	A	16.23	-0.30	-0.03	A	13.26	0.24	0.02	A	0.63	-0.09	-0.01	A	0.48	0.22	0.02	A	0.11	-0.04	0.00	A
42	1.19	0.04	0.00	A	0.37	-0.02	0.00	A	1.08	-0.08	-0.01	A	1.25	0.08	0.01	A	57.12	0.83	0.08	A	3.79	0.57	0.06	A	0.12	0.04	0.00	A
43	6.11	-0.09	-0.01	A	54.03	-0.27	-0.02	A	0.17	0.03	0.00	A	1.66	0.09	0.01	A	83.62	1.03	0.09	B>	1.06	0.30	0.03	A	0.18	0.05	0.00	A
44	154.47	-0.49	-0.04	A	140.05	-0.48	-0.03	A	0.75	0.07	0.01	A	0.04	0.02	0.00	A	90.44	1.12	0.09	B>	0.08	0.10	0.01	A	5.04	0.30	0.02	A
45	28.73	0.22	0.02	A	3.12	0.07	0.01	A	6.28	-0.21	-0.02	A	10.54	-0.24	-0.02	A	0.02	-0.02	0.00	A	0.04	0.07	0.00	A	0.21	-0.07	0.00	A
46	0.83	-0.03	0.00	A	0.44	0.02	0.00	A	1.52	-0.09	-0.01	A	2.18	0.10	0.01	A	1.35	-0.12	-0.01	A	1.17	0.32	0.03	A	0.85	0.11	0.01	A
47	58.26	0.27	0.03	A	15.39	0.14	0.01	A	32.17	0.42	0.04	A	6.43	0.17	0.02	A	67.40	0.97	0.08	A	0.81	0.28	0.03	A	1.37	-0.14	-0.01	A
48	456.24	0.98	0.05	A	80.59	-0.41	-0.02	A	20.88	0.44	0.03	A	11.13	-0.26	-0.02	A	10.94	-0.52	-0.02	A	0.23	-0.19	-0.01	A	10.34	0.55	0.03	A
49	23.79	0.20	0.01	A	4.84	-0.09	-0.01	A	2.36	-0.13	-0.01	A	10.88	-0.24	-0.02	A	2.94	0.26	0.01	A	4.92	-0.73	-0.05	A	0.00	0.00	0.00	A
50	46.93	0.27	0.02	A	0.89	-0.04	0.00	A	6.24	-0.21	-0.02	A	47.18	-0.48	-0.04	A	12.24	-0.48	-0.03	A	0.59	-0.26	-0.02	A	1.75	-0.18	-0.01	A
51	5.94	-0.09	-0.01	A	0.21	-0.02	0.00	A	9.16	-0.23	-0.02	A	0.28	-0.04	0.00	A	4.74	0.26	0.02	A	0.18	-0.13	-0.01	A	1.22	-0.14	-0.01	A
52	212.16	0.64	0.04	A	51.51	0.32	0.02	A	2.61	0.14	0.01	A	0.55	0.06	0.00	A	21.73	0.85	0.03	A	0.11	-0.13	-0.01	A	0.06	-0.04	0.00	A
53	208.93	0.84	0.03	A	8.35	0.17	0.01	A	1.38	-0.13	-0.01	A	38.06	-0.55	-0.03	A	3.25	-0.43	-0.01	A	0.02	-0.08	0.00	A	0.01	0.02	0.00	A
54	0.58	-0.03	0.00	A	1.34	-0.05	0.00	A	15.19	-0.34	-0.02	A	6.97	0.20	0.02	A	2.34	-0.25	-0.01	A	7.51	-0.97	-0.06	A	4.48	-0.32	-0.02	A
55	110.81	0.59	0.02	A	18.48	-0.24	-0.01	A	0.09	-0.03	0.00	A	4.32	-0.19	-0.01	A	5.88	0.60	0.01	A	4.65	-1.08	-0.04	A	0.36	0.12	0.00	A
56	46.95	0.30	0.02	A	5.50	-0.10	-0.01	A	10.84	-0.28	-0.02	A	2.86	0.13	0.01	A	0.47	-0.10	0.00	A	0.07	-0.10	-0.01	A	0.02	-0.02	0.00	A
57	0.03	0.01	0.00	A	376.02	-0.80	-0.06	A	2.63	-0.14	-0.01	A	70.58	-0.61	-0.05	A	8.97	-0.44	-0.02	A	0.71	-0.28	-0.02	A	0.44	0.10	0.01	A
58	37.34	-0.22	-0.02	A	60.32	-0.29	-0.02	A	0.75	-0.07	-0.01	A	37.88	-0.42	-0.04	A	0.47	-0.08	-0.01	A	2.97	0.53	0.05	A	1.04	-0.13	-0.01	A
59	0.84	-0.03	0.00	A	49.46	-0.26	-0.02	A	14.64	0.30	0.03	A	2.96	-0.12	-0.01	A	21.34	0.51	0.05	A	2.88	0.52	0.05	A	0.01	-0.01	0.00	A
60	113.77	0.44	0.03	A	11.61	0.14	0.01	A	0.46	-0.06	0.00	A	3.85	0.15	0.01	A	4.23	0.30	0.02	A	0.46	-0.24	-0.02	A	0.06	-0.03	0.00	A
61	147.13	0.50	0.04	A	15.57	0.16	0.01	A	1.81	0.11	0.01	A	0.08	-0.02	0.00	A	8.60	0.46	0.02	A	0.14	-0.12	-0.01	A	0.59	0.11	0.01	A
62	258.05	0.99	0.03	A	41.30	0.39	0.02	A	0.55	-0.09	0.00	A	11.54	0.35	0.02	A	0.54	-0.17	0.00	A	0.88	0.54	0.02	A	2.26	-0.31	-0.01	A
63	515.41	-0.95	-0.06	A	165.76	-0.54	-0.04	A	34.07	-0.51	-0.04	A	11.27	-0.25	-0.02	A	2.27	-0.23	-0.01	A	0.14	0.13	0.01	A	1.53	0.17	0.01	A
64	37.27	-0.24	-0.02	A	29.30	-0.22	-0.02	A	20.13	-0.36	-0.03	A	0.90	0.07	0.01	A	10.88	-0.46	-0.02	A	0.90	-0.32	-0.02	A	0.23	-0.07	0.00	A
65	10.59	0.13	0.01	A	11.60	-0.15	-0.01	A	0.19	0.04	0.00	A	0.20	-0.04	0.00	A	53.53	0.94	0.07	A	0.26	0.17	0.01	A	0.01	-0.01	0.00	A
66	8.68	0.11	0.01	A	33.87	0.22	0.02	A	0.81	-0.07	-0.01	A	5.62	0.16	0.01	A	14.18	0.48	0.03	A	0.32	-0.17	-0.02	A	9.28	-0.38	-0.03	A
67	40.74	0.24	0.02	A	14.40	0.14	0.02	A	0.34	-0.05	0.00	A	4.38	-0.14	-0.01	A	0.08	-0.04	0.00	A	0.09	-0.10	-0.01	A	2.66	-0.21	-0.02	A
68	115.58	0.41	0.03	A	87.60	-0.36	-0.03	A	63.21	-0.63	-0.05	A	14.50	-0.27	-0.02	A	9.33	-0.39	-0.02	A	2.59	-0.51	-0.04	A	2.81	0.22	0.02	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.7
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 8

	Reference: Male N= 40622 Focal: Female N= 39224				Reference: Hispanic N= 46351 Focal: Non Hispanic N= 33606				Reference: White N= 64142 Focal: Africa American N= 4909				Reference: White N= 64142 Focal: Native American N= 5743				Reference: White N= 64142 Focal: Asian N= 2270				Reference: White N= 64142 Focal: Hawaii N= 258				Reference: White N= 64142 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	86.39	0.60	0.02	A	2.44	-0.10	0.00	A	33.27	-0.65	-0.03	A	64.23	-0.81	-0.03	A	36.08	-1.34	-0.02	B<	2.03	-0.72	-0.02	A	0.02	-0.04	0.00	A
2	415.32	-0.82	-0.06	A	13.49	-0.15	-0.01	A	21.69	-0.37	-0.03	A	6.95	0.19	0.02	A	6.35	0.39	0.02	A	0.00	-0.02	0.00	A	0.19	0.06	0.00	A
3	43.35	-0.29	-0.02	A	58.64	0.34	0.02	A	8.26	-0.24	-0.02	A	0.71	0.07	0.00	A	1.02	-0.16	-0.01	A	0.02	0.06	0.00	A	2.40	0.24	0.01	A
4	6.91	-0.10	-0.01	A	68.79	-0.32	-0.02	A	20.84	0.36	0.03	A	0.68	-0.06	0.00	A	10.49	0.42	0.03	A	0.05	-0.08	-0.01	A	2.25	-0.20	-0.02	A
5	7.38	-0.12	-0.01	A	75.37	-0.38	-0.03	A	2.57	-0.13	-0.01	A	72.87	-0.65	-0.05	A	1.96	-0.23	-0.01	A	3.32	-0.66	-0.04	A	0.39	0.09	0.01	A
6	50.94	0.26	0.02	A	3.45	-0.07	-0.01	A	2.12	0.11	0.01	A	17.06	-0.31	-0.03	A	27.64	0.62	0.05	A	1.01	-0.33	-0.03	A	2.78	-0.22	-0.02	A
7	5.54	-0.10	-0.01	A	3.76	0.08	0.01	A	2.88	0.14	0.01	A	3.25	-0.13	-0.01	A	12.04	0.56	0.02	A	1.83	0.49	0.03	A	0.25	0.07	0.01	A
8	47.62	-0.27	-0.02	A	17.71	0.17	0.01	A	24.23	0.40	0.03	A	1.89	0.10	0.01	A	25.99	0.70	0.04	A	1.24	0.38	0.03	A	0.07	-0.03	0.00	A
9	0.01	0.00	0.00	A	0.81	0.03	0.00	A	1.57	-0.10	-0.01	A	9.62	0.22	0.02	A	17.54	0.54	0.04	A	0.64	0.28	0.02	A	0.09	-0.04	0.00	A
10	452.47	-0.77	-0.07	A	9.42	-0.11	-0.01	A	3.53	-0.14	-0.01	A	7.91	0.20	0.02	A	0.00	0.00	0.00	A	6.30	0.81	0.07	A	1.12	0.13	0.01	A
11	38.83	0.29	0.02	A	3.34	0.08	0.01	A	14.43	0.34	0.02	A	0.47	-0.06	0.00	A	0.01	-0.02	0.00	A	2.19	-0.58	-0.03	A	0.65	-0.13	-0.01	A
12	80.98	0.38	0.02	A	13.25	-0.15	-0.01	A	5.46	-0.19	-0.01	A	0.65	-0.06	0.00	A	0.01	-0.02	0.00	A	0.23	-0.18	-0.01	A	1.17	-0.15	-0.01	A
13	8.64	0.12	0.01	A	1.19	-0.04	0.00	A	2.59	-0.13	-0.01	A	2.16	-0.11	-0.01	A	8.39	0.42	0.02	A	0.27	0.18	0.01	A	0.88	-0.12	-0.01	A
14	116.87	0.41	0.03	A	0.63	0.03	0.00	A	3.00	0.14	0.01	A	0.13	0.03	0.00	A	7.66	0.36	0.02	A	3.10	-0.59	-0.05	A	0.47	0.09	0.01	A
15	50.26	0.30	0.02	A	59.17	0.33	0.02	A	0.71	0.07	0.01	A	2.27	-0.12	-0.01	A	10.24	0.51	0.02	A	1.84	-0.47	-0.03	A	0.06	0.03	0.00	A
16	8.80	0.12	0.01	A	52.75	0.30	0.02	A	0.04	0.02	0.00	A	7.88	-0.21	-0.02	A	0.00	0.00	0.00	A	0.09	0.12	0.01	A	1.80	0.19	0.01	A
17	328.18	-0.65	-0.06	A	7.46	-0.10	-0.01	A	30.53	-0.41	-0.04	A	14.43	0.26	0.03	A	0.07	0.03	0.00	A	0.00	0.01	0.00	A	0.88	0.12	0.01	A
18	0.77	0.03	0.00	A	30.07	-0.21	-0.02	A	4.44	0.17	0.01	A	12.26	-0.27	-0.02	A	53.91	0.80	0.08	A	1.16	0.34	0.03	A	1.20	-0.14	-0.01	A
19	0.03	-0.01	0.00	A	195.82	-0.56	-0.04	A	3.77	-0.16	-0.01	A	19.62	-0.34	-0.03	A	2.77	0.23	0.01	A	1.29	-0.37	-0.03	A	0.16	-0.05	0.00	A
20	79.42	0.34	0.03	A	12.76	0.14	0.01	A	10.67	0.25	0.02	A	0.46	-0.05	0.00	A	18.19	0.59	0.04	A	0.10	-0.10	-0.01	A	1.04	-0.13	-0.01	A
21	0.06	-0.01	0.00	A	13.47	-0.16	-0.01	A	0.01	-0.01	0.00	A	2.56	0.13	0.01	A	0.00	0.01	0.00	A	0.06	-0.09	-0.01	A	0.16	0.06	0.00	A
22	288.09	0.89	0.04	A	2.34	0.08	0.01	A	19.24	-0.42	-0.02	A	3.18	-0.16	-0.01	A	10.48	-0.65	-0.02	A	0.51	-0.30	-0.01	A	2.35	-0.27	-0.01	A
23	2.51	-0.06	0.00	A	4.21	-0.08	-0.01	A	10.20	-0.25	-0.02	A	1.07	-0.07	-0.01	A	0.01	-0.02	0.00	A	0.25	-0.17	-0.01	A	0.03	-0.02	0.00	A
24	13.45	-0.14	-0.01	A	41.74	-0.25	-0.02	A	41.24	-0.48	-0.04	A	8.86	0.21	0.02	A	0.43	0.09	0.01	A	0.03	-0.06	-0.01	A	0.62	0.10	0.01	A
25	62.54	0.35	0.02	A	5.69	-0.10	-0.01	A	1.10	0.09	0.01	A	1.49	0.10	0.01	A	18.84	0.78	0.03	A	0.06	0.10	0.01	A	0.73	-0.13	-0.01	A
26	131.03	0.44	0.03	A	22.05	-0.18	-0.02	A	4.76	0.17	0.01	A	45.29	-0.48	-0.04	A	0.01	-0.01	0.00	A	0.97	-0.32	-0.03	A	0.97	-0.13	-0.01	A
27	18.25	0.16	0.01	A	32.65	-0.22	-0.02	A	7.85	0.22	0.02	A	10.86	-0.23	-0.02	A	0.12	-0.05	0.00	A	0.02	0.05	0.00	A	0.65	-0.10	-0.01	A
28	138.26	-0.56	-0.03	A	23.38	0.23	0.01	A	0.51	-0.07	0.00	A	0.11	0.03	0.00	A	12.37	-0.55	-0.02	A	0.66	0.35	0.02	A	0.02	-0.02	0.00	A
29	115.48	0.42	0.03	A	0.00	0.00	0.00	A	0.00	0.01	0.00	A	7.04	-0.20	-0.02	A	1.26	0.16	0.01	A	2.09	-0.49	-0.04	A	0.12	0.05	0.00	A
30	0.35	0.03	0.00	A	22.12	0.21	0.01	A	17.16	0.36	0.03	A	3.23	-0.14	-0.01	A	6.67	0.44	0.02	A	0.23	-0.18	-0.01	A	0.16	-0.06	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.7 (continued)
Spring 2012 AIMS Differential Item Functioning Mathematics CRT Grade 8

	Reference: Male N= 40622 Focal: Female N= 39224				Reference: Hispanic N= 46351 Focal: Non Hispanic N= 33606				Reference: White N= 64142 Focal: Africa American N= 4909				Reference: White N= 64142 Focal: Native American N= 5743				Reference: White N= 64142 Focal: Asian N= 2270				Reference: White N= 64142 Focal: Hawaii N= 258				Reference: White N= 64142 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	282.30	-0.62	-0.05	A	2.14	-0.06	-0.01	A	2.44	-0.12	-0.01	A	5.47	0.17	0.01	A	3.64	0.22	0.02	A	0.49	-0.22	-0.02	A	0.34	-0.08	-0.01	A
32	147.64	0.44	0.04	A	30.40	0.21	0.02	A	4.15	-0.16	-0.01	A	3.00	0.13	0.01	A	38.60	0.70	0.06	A	0.27	0.16	0.01	A	1.00	-0.13	-0.01	A
33	704.30	1.47	0.06	B>	15.81	0.22	0.01	A	0.93	-0.10	-0.01	A	2.56	0.15	0.01	A	5.02	-0.48	-0.01	A	0.09	-0.13	-0.01	A	2.40	-0.29	-0.01	A
34	9.38	0.12	0.01	A	17.93	0.17	0.02	A	0.63	-0.06	-0.01	A	0.00	0.00	0.00	A	7.60	0.39	0.02	A	1.48	0.42	0.03	A	0.00	0.00	0.00	A
35	202.87	0.76	0.03	A	0.00	0.00	0.00	A	1.59	-0.13	-0.01	A	76.13	-0.77	-0.04	A	40.93	-1.20	-0.03	B<	0.26	-0.25	-0.01	A	1.49	-0.22	-0.01	A
36	56.49	0.28	0.02	A	8.25	0.11	0.01	A	0.04	-0.01	0.00	A	6.83	0.18	0.02	A	18.62	0.57	0.04	A	4.46	0.67	0.06	A	0.76	0.11	0.01	A
37	0.39	0.02	0.00	A	10.98	0.12	0.01	A	2.61	0.12	0.01	A	37.48	0.43	0.04	A	64.50	0.89	0.08	A	1.64	0.40	0.04	A	0.28	-0.06	-0.01	A
38	81.16	-0.39	-0.02	A	10.72	-0.14	-0.01	A	22.62	-0.40	-0.03	A	8.91	0.23	0.02	A	3.60	0.32	0.01	A	4.49	0.84	0.05	A	0.42	-0.10	-0.01	A
39	51.67	0.27	0.02	A	26.26	-0.20	-0.02	A	3.79	0.15	0.01	A	8.88	-0.21	-0.02	A	9.39	0.40	0.03	A	0.23	-0.16	-0.01	A	1.29	0.15	0.01	A
40	17.14	0.19	0.01	A	2.71	0.07	0.00	A	3.20	-0.15	-0.01	A	5.08	0.18	0.01	A	0.73	0.15	0.01	A	2.32	0.59	0.04	A	0.00	0.01	0.00	A
41	21.82	-0.18	-0.01	A	268.79	-0.67	-0.04	A	0.79	-0.08	-0.01	A	20.28	-0.37	-0.02	A	60.95	0.86	0.08	A	2.92	0.58	0.04	A	3.15	0.24	0.02	A
42	29.12	-0.23	-0.02	A	624.13	-1.05	-0.07	B<	12.25	-0.28	-0.02	A	0.24	-0.04	0.00	A	9.89	-0.46	-0.02	A	0.06	0.09	0.01	A	0.13	0.05	0.00	A
43	95.83	0.36	0.03	A	0.17	-0.02	0.00	A	0.01	0.01	0.00	A	3.32	-0.13	-0.01	A	20.84	0.54	0.04	A	0.00	0.01	0.00	A	0.44	-0.08	-0.01	A
44	287.35	0.68	0.05	A	16.16	-0.16	-0.01	A	0.98	-0.08	-0.01	A	0.01	-0.01	0.00	A	0.01	-0.02	0.00	A	0.43	0.23	0.02	A	0.01	-0.01	0.00	A
45	107.44	0.44	0.03	A	12.19	-0.15	-0.01	A	2.01	-0.12	-0.01	A	15.07	-0.28	-0.02	A	0.02	0.02	0.00	A	2.17	-0.53	-0.04	A	0.49	-0.10	-0.01	A
46	25.02	0.21	0.01	A	4.48	-0.09	-0.01	A	0.68	0.07	0.01	A	2.28	-0.12	-0.01	A	0.01	-0.02	0.00	A	0.14	-0.13	-0.01	A	0.21	-0.07	0.00	A
47	38.00	0.22	0.02	A	0.02	0.01	0.00	A	1.31	-0.08	-0.01	A	0.40	-0.04	0.00	A	26.96	0.68	0.05	A	0.10	0.10	0.01	A	0.23	-0.06	-0.01	A
48	193.25	-0.86	-0.03	A	37.81	-0.38	-0.01	A	38.18	-0.66	-0.03	A	48.96	-0.69	-0.03	A	14.78	-0.88	-0.02	A	0.11	0.18	0.01	A	0.82	0.20	0.01	A
49	469.91	-0.87	-0.06	A	4.61	-0.09	-0.01	A	34.20	-0.46	-0.04	A	1.39	0.09	0.01	A	0.34	0.08	0.00	A	0.04	-0.07	-0.01	A	2.01	-0.19	-0.01	A
50	0.40	0.02	0.00	A	1.05	0.04	0.00	A	2.63	-0.12	-0.01	A	16.44	-0.29	-0.03	A	4.19	0.22	0.02	A	0.65	-0.25	-0.02	A	0.58	-0.09	-0.01	A
51	401.58	-0.79	-0.06	A	143.08	-0.47	-0.04	A	20.77	-0.36	-0.03	A	190.96	-1.00	-0.09	B<	1.13	-0.15	-0.01	A	0.11	0.11	0.01	A	3.75	0.27	0.02	A
52	32.09	-0.22	-0.02	A	24.69	0.20	0.02	A	58.35	-0.59	-0.05	A	0.00	0.00	0.00	A	0.69	0.11	0.01	A	1.16	-0.36	-0.03	A	0.64	-0.11	-0.01	A
53	30.24	-0.21	-0.02	A	60.35	-0.30	-0.02	A	0.05	-0.02	0.00	A	10.01	-0.23	-0.02	A	0.22	-0.06	0.00	A	5.10	0.78	0.06	A	0.79	0.12	0.01	A
54	417.84	0.84	0.06	A	0.03	0.01	0.00	A	12.00	0.29	0.02	A	9.53	-0.23	-0.02	A	1.43	0.18	0.01	A	0.15	-0.14	-0.01	A	0.74	0.12	0.01	A
55	184.53	0.52	0.04	A	4.69	0.09	0.01	A	4.20	0.17	0.01	A	0.09	0.02	0.00	A	44.10	0.77	0.07	A	0.20	0.15	0.01	A	0.59	0.10	0.01	A
56	1046.42	1.37	0.09	B>	16.13	-0.17	-0.01	A	3.06	-0.15	-0.01	A	0.32	-0.04	0.00	A	5.13	-0.33	-0.02	A	0.04	0.07	0.00	A	0.43	0.09	0.01	A
57	2.68	0.07	0.00	A	2.36	0.07	0.01	A	1.27	0.10	0.01	A	9.76	0.25	0.02	A	0.05	0.04	0.00	A	0.79	-0.35	-0.02	A	0.78	-0.13	-0.01	A
58	11.88	0.13	0.01	A	37.84	-0.24	-0.02	A	0.25	-0.04	0.00	A	9.83	-0.24	-0.02	A	16.59	0.49	0.04	A	0.30	-0.18	-0.01	A	3.80	-0.26	-0.02	A
59	236.71	0.58	0.05	A	3.88	0.08	0.01	A	5.18	0.18	0.02	A	1.50	-0.09	-0.01	A	34.52	0.78	0.05	A	1.51	0.41	0.03	A	0.40	0.08	0.01	A
60	31.23	-0.21	-0.02	A	8.60	-0.11	-0.01	A	8.30	-0.22	-0.02	A	4.26	-0.15	-0.01	A	0.02	-0.02	0.00	A	0.01	0.03	0.00	A	3.58	-0.24	-0.02	A
61	7.92	-0.10	-0.01	A	19.24	0.16	0.01	A	32.21	-0.42	-0.04	A	36.60	0.42	0.04	A	7.73	0.36	0.03	A	0.31	-0.17	-0.02	A	0.13	-0.05	0.00	A
62	91.12	0.45	0.02	A	10.55	-0.15	-0.01	A	7.20	-0.24	-0.02	A	3.72	-0.16	-0.01	A	6.57	0.49	0.02	A	0.96	0.42	0.02	A	0.05	-0.04	0.00	A
63	286.97	-0.60	-0.06	A	84.15	-0.33	-0.03	A	24.53	-0.37	-0.03	A	1.86	-0.09	-0.01	A	0.27	0.06	0.01	A	0.53	0.23	0.02	A	0.01	0.01	0.00	A
64	131.23	0.46	0.03	A	0.06	0.01	0.00	A	0.05	0.02	0.00	A	2.44	-0.11	-0.01	A	0.29	-0.07	0.00	A	0.38	-0.21	-0.02	A	0.13	-0.05	0.00	A
65	47.93	-0.29	-0.02	A	10.17	-0.14	-0.01	A	15.02	-0.32	-0.02	A	0.10	0.02	0.00	A	0.09	-0.05	0.00	A	0.03	-0.06	0.00	A	0.00	0.00	0.00	A
66	0.12	-0.01	0.00	A	0.11	0.01	0.00	A	1.34	0.09	0.01	A	2.81	0.12	0.01	A	33.76	0.66	0.06	A	0.57	0.24	0.02	A	0.00	0.00	0.00	A
67	16.15	-0.15	-0.01	A	54.15	-0.28	-0.02	A	0.19	-0.03	0.00	A	47.93	-0.49	-0.04	A	12.68	0.48	0.03	A	0.05	-0.08	-0.01	A	4.42	-0.27	-0.02	A
68	807.83	-1.06	-0.09	B<	8.82	-0.11	-0.01	A	32.93	-0.46	-0.04	A	0.06	-0.02	0.00	A	13.06	0.41	0.04	A	1.71	0.45	0.04	A	0.05	-0.03	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.8
Spring 2012 AIMS Differential Item Functioning Mathematics CRT High School

	Reference: Male N= 38557 Focal: Female N= 38204				Reference: Hispanic N= 45986 Focal: Non Hispanic N= 30855				Reference: White N= 62472 Focal: Africa American N= 4563				Reference: White N= 62472 Focal: Native American N= 4555				Reference: White N= 62472 Focal: Asian N= 2361				Reference: White N= 62472 Focal: Hawaii N= 220				Reference: White N= 62472 Focal: Multiple Indicator N= 15			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	0.34	-0.02	0.00	A	19.06	0.19	0.01	A	0.67	0.07	0.01	A	14.08	-0.31	-0.03	A	11.40	0.50	0.02	A	0.01	0.04	0.00	A	0.04	-0.03	0.00	A
2	6.88	0.11	0.01	A	0.12	0.01	0.00	A	1.38	0.10	0.01	A	10.88	-0.28	-0.02	A	20.63	0.65	0.04	A	0.02	0.06	0.00	A	0.12	0.05	0.00	A
3	0.65	0.03	0.00	A	4.72	0.08	0.01	A	0.00	0.00	0.00	A	0.53	0.06	0.01	A	28.58	0.67	0.05	A	1.43	0.41	0.04	A	0.06	-0.03	0.00	A
4	2.86	-0.06	-0.01	A	8.62	0.12	0.01	A	1.32	0.09	0.01	A	0.25	0.04	0.00	A	16.58	0.52	0.03	A	4.69	-0.73	-0.07	A	3.14	-0.24	-0.02	A
5	602.23	-1.01	-0.07	B<	20.98	-0.19	-0.01	A	9.68	-0.25	-0.02	A	3.91	-0.16	-0.01	A	0.67	-0.11	-0.01	A	4.00	-0.72	-0.06	A	0.01	0.01	0.00	A
6	9.51	0.11	0.01	A	3.68	-0.07	-0.01	A	3.47	0.14	0.01	A	5.11	-0.17	-0.02	A	18.21	-0.46	-0.04	A	0.14	-0.13	-0.01	A	0.39	0.08	0.01	A
7	3.09	-0.07	-0.01	A	2.75	0.07	0.01	A	3.71	0.17	0.01	A	4.49	-0.17	-0.01	A	5.76	0.36	0.02	A	0.07	0.11	0.01	A	0.12	0.05	0.00	A
8	46.01	-0.24	-0.02	A	57.55	0.29	0.03	A	4.52	-0.16	-0.02	A	2.57	-0.12	-0.01	A	0.01	0.01	0.00	A	1.75	-0.45	-0.04	A	0.57	-0.10	-0.01	A
9	8.94	-0.11	-0.01	A	104.04	-0.40	-0.03	A	15.19	-0.31	-0.03	A	0.10	0.02	0.00	A	0.03	-0.02	0.00	A	0.69	-0.29	-0.03	A	4.42	0.28	0.02	A
10	29.95	0.26	0.01	A	47.39	0.33	0.02	A	6.72	0.24	0.02	A	0.34	-0.05	0.00	A	5.38	0.41	0.01	A	0.01	0.05	0.00	A	2.34	-0.25	-0.01	A
11	251.84	0.94	0.03	A	0.56	-0.04	0.00	A	0.39	-0.07	0.00	A	11.37	-0.35	-0.02	A	2.30	-0.33	-0.01	A	6.81	-1.29	-0.05	B<	0.15	-0.08	0.00	A
12	180.90	0.63	0.03	A	0.74	-0.04	0.00	A	0.69	-0.08	-0.01	A	1.34	0.10	0.01	A	8.99	0.56	0.02	A	1.46	0.53	0.03	A	0.08	0.05	0.00	A
13	12.18	0.16	0.01	A	3.47	-0.09	0.00	A	7.19	-0.24	-0.02	A	24.75	-0.43	-0.03	A	1.41	0.20	0.01	A	4.03	-0.79	-0.05	A	3.28	-0.29	-0.02	A
14	114.94	-0.48	-0.03	A	198.04	-0.64	-0.04	A	89.46	-0.81	-0.06	A	7.04	-0.23	-0.02	A	53.10	-1.02	-0.05	B<	2.45	-0.60	-0.04	A	1.27	-0.18	-0.01	A
15	144.07	-0.54	-0.03	A	74.55	-0.39	-0.03	A	55.63	-0.65	-0.05	A	4.39	-0.18	-0.01	A	0.81	-0.15	-0.01	A	0.00	0.03	0.00	A	0.20	0.07	0.00	A
16	252.12	0.66	0.05	A	17.94	0.18	0.01	A	3.91	0.17	0.01	A	0.05	-0.02	0.00	A	26.72	0.80	0.04	A	0.77	0.35	0.02	A	0.24	0.07	0.01	A
17	189.31	-0.52	-0.04	A	3.83	-0.08	-0.01	A	0.68	-0.07	-0.01	A	13.45	-0.32	-0.02	A	7.07	0.29	0.03	A	0.78	-0.33	-0.03	A	0.47	-0.09	-0.01	A
18	40.99	-0.25	-0.02	A	5.86	-0.10	0.00	A	0.97	0.08	0.01	A	1.00	0.08	0.01	A	60.78	0.85	0.08	A	0.86	0.32	0.03	A	0.25	0.07	0.01	A
19	97.37	0.43	0.03	A	17.91	-0.19	-0.01	A	3.73	-0.17	-0.01	A	32.64	-0.47	-0.04	A	42.17	-0.92	-0.04	A	1.31	-0.46	-0.03	A	1.12	-0.16	-0.01	A
20	184.10	0.62	0.04	A	21.22	0.22	0.01	A	6.52	-0.23	-0.02	A	0.12	0.03	0.00	A	3.41	-0.27	-0.01	A	0.33	-0.23	-0.01	A	0.86	-0.15	-0.01	A
21	87.91	-0.43	-0.03	A	5.24	-0.11	-0.01	A	11.51	-0.30	-0.02	A	14.63	0.34	0.02	A	4.60	0.36	0.01	A	0.08	-0.12	-0.01	A	0.39	-0.10	-0.01	A
22	187.28	-0.58	-0.04	A	47.75	-0.31	-0.02	A	3.54	-0.18	-0.01	A	3.59	-0.19	-0.01	A	93.41	1.09	0.09	B>	1.33	-0.47	-0.03	A	0.28	-0.08	-0.01	A
23	187.11	-0.49	-0.05	A	21.95	-0.18	-0.01	A	2.80	-0.13	-0.01	A	2.21	0.11	0.01	A	16.50	0.43	0.04	A	4.36	-0.74	-0.07	A	0.12	-0.04	0.00	A
24	12.95	-0.13	-0.01	A	2.63	-0.06	0.00	A	0.75	-0.07	-0.01	A	1.22	0.09	0.01	A	55.02	0.86	0.07	A	2.68	0.55	0.05	A	0.80	-0.12	-0.01	A
25	5.52	0.12	0.00	A	21.51	0.25	0.01	A	0.25	-0.05	0.00	A	1.60	-0.12	-0.01	A	0.00	-0.01	0.00	A	0.05	0.11	0.01	A	0.36	0.11	0.01	A
26	248.05	0.66	0.05	A	6.25	0.11	0.01	A	0.06	-0.02	0.00	A	4.31	-0.17	-0.01	A	1.33	-0.16	-0.01	A	0.02	0.05	0.00	A	0.81	-0.13	-0.01	A
27	0.58	-0.03	0.00	A	2.77	-0.06	0.00	A	0.03	0.01	0.00	A	0.04	0.01	0.00	A	3.65	0.23	0.02	A	1.01	-0.35	-0.03	A	0.00	0.00	0.00	A
28	72.65	-0.32	-0.03	A	44.31	-0.26	-0.02	A	1.57	-0.10	-0.01	A	0.92	0.08	0.01	A	14.31	0.43	0.04	A	1.09	0.36	0.03	A	0.39	-0.08	-0.01	A
29	199.44	-0.54	-0.05	A	28.35	-0.21	-0.02	A	4.61	0.17	0.02	A	47.90	-0.54	-0.05	A	5.40	0.30	0.02	A	0.37	-0.22	-0.02	A	0.00	0.00	0.00	A
30	0.55	0.03	0.00	A	1.72	-0.05	0.00	A	5.94	0.20	0.02	A	2.43	0.13	0.01	A	7.86	0.38	0.02	A	0.05	-0.08	-0.01	A	2.69	0.23	0.02	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.8 (continued)
Spring 2012 AIMS Differential Item Functioning Mathematics CRT High School

	Reference: Male N= 38557 Focal: Female N= 38204				Reference: Hispanic N= 45986 Focal: Non Hispanic N= 30855				Reference: White N= 62472 Focal: Africa American N= 4563				Reference: White N= 62472 Focal: Native American N= 4555				Reference: White N= 62472 Focal: Asian N= 2361				Reference: White N= 62472 Focal: Hawaii N= 220				Reference: White N= 62472 Focal: Multiple Indicator N= 15			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	1019.48	-1.18	-0.11	B<	509.24	-0.85	-0.07	A	29.78	-0.42	-0.04	A	43.46	-0.50	-0.05	A	1.38	0.13	0.01	A	2.37	-0.54	-0.05	A	3.28	-0.24	-0.02	A
32	156.39	0.53	0.04	A	22.73	0.20	0.02	A	5.45	0.20	0.02	A	10.77	-0.27	-0.02	A	12.00	0.53	0.02	A	0.62	-0.28	-0.02	A	1.20	-0.16	-0.01	A
33	14.56	0.18	0.01	A	10.24	0.15	0.01	A	0.35	-0.05	0.00	A	6.42	0.23	0.02	A	0.12	-0.06	0.00	A	0.43	0.27	0.02	A	0.18	0.07	0.00	A
34	88.62	0.37	0.03	A	3.31	0.07	0.01	A	2.16	0.12	0.01	A	0.25	-0.04	0.00	A	28.09	0.72	0.04	A	0.42	-0.22	-0.02	A	0.22	-0.06	-0.01	A
35	126.26	0.42	0.04	A	23.01	-0.19	-0.02	A	3.41	0.14	0.01	A	0.43	-0.05	0.00	A	21.34	0.55	0.04	A	3.25	0.63	0.06	A	1.19	-0.15	-0.01	A
36	57.02	-0.34	-0.02	A	0.13	0.02	0.00	A	2.00	-0.13	-0.01	A	4.95	-0.19	-0.01	A	0.38	0.10	0.00	A	1.28	-0.45	-0.03	A	5.90	-0.38	-0.02	A
37	2.47	0.06	0.01	A	6.00	-0.09	-0.01	A	3.31	-0.14	-0.01	A	0.70	0.06	0.01	A	14.62	0.45	0.04	A	0.41	0.22	0.02	A	0.37	0.08	0.01	A
38	39.45	0.26	0.02	A	170.34	-0.55	-0.04	A	19.10	-0.37	-0.03	A	25.65	-0.41	-0.03	A	11.42	-0.46	-0.02	A	0.07	0.10	0.01	A	0.00	-0.01	0.00	A
39	2.06	0.05	0.00	A	9.67	-0.12	-0.01	A	1.78	-0.11	-0.01	A	0.20	-0.04	0.00	A	34.53	0.68	0.06	A	0.00	0.02	0.00	A	0.46	0.09	0.01	A
40	47.37	0.26	0.02	A	1.28	-0.04	0.00	A	0.52	-0.06	0.00	A	1.21	-0.09	-0.01	A	21.35	0.56	0.04	A	1.39	-0.40	-0.04	A	0.00	0.00	0.00	A
41	201.43	0.51	0.05	A	11.07	0.13	0.01	A	7.69	0.21	0.02	A	1.00	0.08	0.01	A	4.20	0.23	0.02	A	0.07	0.09	0.01	A	0.05	-0.03	0.00	A
42	92.93	0.40	0.03	A	58.81	-0.32	-0.02	A	7.93	-0.24	-0.02	A	115.64	-0.86	-0.07	A	4.05	-0.27	-0.01	A	1.89	-0.51	-0.04	A	0.77	-0.13	-0.01	A
43	42.84	-0.35	-0.01	A	64.87	-0.48	-0.02	A	7.42	-0.36	-0.01	A	0.85	0.12	0.00	A	74.20	1.06	0.07	B>	2.04	0.71	0.03	A	0.16	-0.08	0.00	A
44	38.05	0.23	0.02	A	4.45	-0.08	0.00	A	2.37	0.12	0.01	A	25.77	-0.41	-0.03	A	16.21	0.49	0.04	A	0.12	-0.12	-0.01	A	4.90	-0.30	-0.03	A
45	467.78	0.94	0.06	A	60.35	0.34	0.03	A	31.05	0.50	0.04	A	0.15	-0.03	0.00	A	37.30	0.97	0.04	A	0.17	0.16	0.01	A	1.66	-0.19	-0.01	A
46	4.05	0.08	0.01	A	79.80	0.35	0.03	A	0.06	0.02	0.00	A	28.05	0.42	0.04	A	23.44	0.56	0.05	A	0.34	0.21	0.02	A	0.00	-0.01	0.00	A
47	115.17	0.56	0.02	A	24.31	0.26	0.01	A	9.36	-0.30	-0.02	A	7.98	0.28	0.02	A	2.53	0.31	0.01	A	1.53	-0.56	-0.03	A	10.35	-0.57	-0.03	A
48	199.56	0.52	0.05	A	19.66	0.17	0.01	A	0.50	0.05	0.00	A	7.01	0.21	0.02	A	0.25	0.06	0.01	A	0.07	0.09	0.01	A	1.92	0.18	0.02	A
49	51.47	0.38	0.02	A	14.08	-0.20	-0.01	A	39.61	-0.61	-0.03	A	22.13	0.48	0.03	A	9.88	-0.58	-0.02	A	4.63	-0.94	-0.05	A	0.17	-0.08	0.00	A
50	44.86	0.25	0.02	A	76.98	-0.33	-0.03	A	23.82	-0.37	-0.04	A	0.15	-0.03	0.00	A	0.93	0.12	0.01	A	0.11	-0.11	-0.01	A	0.11	0.04	0.00	A
51	0.05	-0.01	0.00	A	20.24	-0.19	-0.01	A	9.93	0.26	0.02	A	9.38	-0.26	-0.02	A	72.20	1.17	0.07	B>	0.38	-0.25	-0.02	A	3.09	0.25	0.02	A
52	4.06	0.08	0.01	A	3.84	0.08	0.01	A	3.16	-0.14	-0.01	A	0.87	-0.08	-0.01	A	77.48	0.96	0.09	A	0.20	-0.16	-0.01	A	0.49	0.09	0.01	A
53	2.94	0.07	0.01	A	0.16	-0.02	0.00	A	0.04	-0.02	0.00	A	1.54	0.10	0.01	A	40.12	0.77	0.06	A	0.54	0.25	0.02	A	0.10	-0.04	0.00	A
54	55.73	0.40	0.02	A	4.08	0.11	0.01	A	7.61	-0.28	-0.02	A	13.83	0.39	0.02	A	16.88	-0.73	-0.02	A	8.62	-1.30	-0.06	B<	6.84	-0.47	-0.02	A
55	307.15	0.75	0.05	A	13.40	0.16	0.01	A	10.20	0.29	0.02	A	0.58	0.07	0.00	A	37.05	0.86	0.05	A	0.58	0.30	0.02	A	3.19	-0.27	-0.02	A
56	39.81	-0.24	-0.02	A	114.69	-0.42	-0.04	A	5.67	-0.19	-0.02	A	39.18	-0.50	-0.04	A	4.10	-0.24	-0.02	A	0.25	-0.18	-0.02	A	2.55	-0.22	-0.02	A
57	441.14	1.04	0.05	B>	12.57	0.18	0.01	A	0.21	-0.04	0.00	A	0.08	0.03	0.00	A	0.46	0.12	0.00	A	0.48	-0.30	-0.02	A	4.08	-0.34	-0.02	A
58	62.74	-0.30	-0.03	A	142.60	-0.46	-0.04	A	0.14	0.03	0.00	A	36.29	-0.47	-0.04	A	3.81	-0.22	-0.02	A	0.80	-0.30	-0.03	A	0.24	0.07	0.01	A
59	122.99	-0.39	-0.04	A	26.59	-0.19	-0.02	A	21.38	-0.35	-0.03	A	22.30	0.36	0.04	A	0.14	-0.04	0.00	A	3.74	-0.64	-0.06	A	2.59	0.20	0.02	A
60	5.47	0.12	0.01	A	7.72	0.14	0.01	A	41.38	-0.62	-0.04	A	14.92	0.37	0.02	A	10.02	-0.60	-0.02	A	1.79	-0.61	-0.03	A	1.67	-0.23	-0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.8 (continued)
Spring 2012 AIMS Differential Item Functioning Mathematics CRT High School

	Reference: Male N= 38557 Focal: Female N= 38204				Reference: Hispanic N= 45986 Focal: Non Hispanic N= 30855				Reference: White N= 62472 Focal: Africa American N= 4563				Reference: White N= 62472 Focal: Native American N= 4555				Reference: White N= 62472 Focal: Asian N= 2361				Reference: White N= 62472 Focal: Hawaii N= 220				Reference: White N= 62472 Focal: Multiple Indicator N= 15			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
61	313.75	-0.74	-0.05	A	121.37	-0.46	-0.04	A	25.46	-0.42	-0.03	A	44.34	-0.54	-0.05	A	7.28	-0.37	-0.02	A	1.12	-0.41	-0.03	A	3.01	0.26	0.02	A
62	1544.81	-1.85	-0.11	C<	222.04	-0.68	-0.05	A	118.67	-0.94	-0.07	A	6.51	-0.22	-0.02	A	12.27	-0.57	-0.02	A	2.79	-0.65	-0.04	A	0.18	-0.07	0.00	A
63	9.91	0.12	0.01	A	76.15	-0.33	-0.03	A	11.76	0.26	0.03	A	9.27	-0.23	-0.02	A	2.04	0.17	0.01	A	0.40	0.22	0.02	A	0.12	0.04	0.00	A
64	68.98	0.30	0.03	A	1.26	-0.04	0.00	A	12.63	0.28	0.03	A	3.34	0.14	0.01	A	22.18	0.54	0.05	A	0.85	0.32	0.03	A	0.03	0.02	0.00	A
65	109.61	-0.40	-0.04	A	46.17	-0.26	-0.02	A	3.68	-0.15	-0.01	A	51.43	-0.56	-0.05	A	0.02	-0.02	0.00	A	0.00	0.01	0.00	A	4.98	-0.30	-0.03	A
66	891.26	-1.16	-0.10	B<	121.83	-0.44	-0.03	A	44.49	-0.55	-0.05	A	22.00	-0.39	-0.03	A	2.43	0.19	0.01	A	2.82	-0.63	-0.05	A	0.02	-0.02	0.00	A
67	0.01	0.00	0.00	A	4.57	-0.08	-0.01	A	0.81	0.07	0.01	A	0.19	0.03	0.00	A	11.68	0.45	0.03	A	3.87	0.73	0.06	A	0.05	-0.03	0.00	A
68	28.31	-0.20	-0.02	A	11.34	-0.13	-0.01	A	25.05	-0.38	-0.04	A	12.66	0.27	0.03	A	0.45	-0.08	-0.01	A	0.01	-0.03	0.00	A	0.50	-0.09	-0.01	A
69	65.09	0.28	0.03	A	45.14	0.25	0.02	A	0.43	-0.05	-0.01	A	0.75	0.07	0.01	A	14.63	0.39	0.04	A	1.46	0.39	0.04	A	0.04	0.02	0.00	A
70	177.45	0.49	0.05	A	7.83	0.11	0.01	A	10.50	0.25	0.02	A	6.48	-0.20	-0.02	A	32.82	0.65	0.05	A	0.14	-0.12	-0.01	A	2.61	-0.21	-0.02	A
71	63.22	0.31	0.02	A	23.08	-0.19	-0.01	A	2.33	-0.12	-0.01	A	10.36	0.26	0.02	A	7.32	0.36	0.02	A	1.10	0.39	0.03	A	0.95	-0.13	-0.01	A
72	145.57	0.50	0.04	A	3.33	0.08	0.00	A	1.02	-0.09	-0.01	A	0.09	-0.03	0.00	A	0.15	-0.05	0.00	A	4.64	-0.84	-0.06	A	0.53	0.11	0.01	A
73	21.69	0.18	0.02	A	0.80	-0.04	0.00	A	0.85	0.07	0.01	A	0.26	0.04	0.00	A	69.49	1.05	0.08	B>	0.30	-0.19	-0.02	A	0.03	-0.02	0.00	A
74	250.46	0.66	0.05	A	0.08	0.01	0.00	A	2.69	-0.14	-0.01	A	2.00	-0.11	-0.01	A	12.48	-0.48	-0.03	A	1.63	-0.48	-0.04	A	1.33	0.17	0.01	A
75	81.85	0.36	0.03	A	0.01	0.00	0.00	A	14.93	0.31	0.03	A	0.52	-0.06	-0.01	A	25.99	0.72	0.04	A	1.53	0.48	0.04	A	0.28	-0.07	-0.01	A
76	56.05	-0.28	-0.02	A	25.44	-0.19	-0.01	A	4.39	-0.17	-0.01	A	0.26	0.04	0.00	A	44.71	0.74	0.07	A	0.23	-0.17	-0.01	A	0.21	-0.06	-0.01	A
77	297.69	0.74	0.05	A	4.28	0.09	0.01	A	1.03	0.09	0.01	A	1.08	-0.09	-0.01	A	32.57	0.93	0.04	A	0.04	0.09	0.01	A	0.56	-0.11	-0.01	A
78	33.57	0.27	0.02	A	3.15	0.08	0.01	A	0.11	-0.03	0.00	A	3.75	-0.17	-0.01	A	1.95	0.25	0.01	A	0.01	-0.05	0.00	A	3.88	-0.32	-0.02	A
79	44.74	0.25	0.02	A	4.09	-0.08	0.00	A	3.55	0.15	0.01	A	0.29	0.04	0.00	A	36.17	0.70	0.06	A	0.43	-0.22	-0.02	A	0.52	0.10	0.01	A
80	98.34	0.47	0.02	A	1.15	-0.05	0.00	A	13.24	-0.32	-0.02	A	1.02	-0.09	-0.01	A	0.05	-0.04	0.00	A	0.72	-0.37	-0.02	A	1.39	0.20	0.01	A
81	5.85	0.12	0.01	A	28.37	-0.26	-0.02	A	6.80	-0.24	-0.02	A	4.64	-0.19	-0.01	A	14.33	-0.61	-0.02	A	0.05	-0.10	-0.01	A	1.28	-0.19	-0.01	A
82	52.47	-0.29	-0.02	A	0.36	-0.02	0.00	A	102.78	-0.82	-0.07	A	45.47	0.54	0.05	A	0.17	-0.06	0.00	A	1.69	-0.48	-0.04	A	6.96	-0.38	-0.03	A
83	74.37	-0.32	-0.03	A	0.05	0.01	0.00	A	20.95	-0.37	-0.03	A	23.39	0.38	0.03	A	37.08	0.64	0.06	A	0.02	0.05	0.00	A	0.68	0.11	0.01	A
84	4.46	0.08	0.01	A	37.54	-0.23	-0.01	A	0.25	-0.04	0.00	A	14.86	-0.30	-0.03	A	3.11	0.20	0.02	A	0.30	0.18	0.02	A	0.79	-0.12	-0.01	A
85	16.50	0.17	0.01	A	3.21	-0.07	0.00	A	2.37	-0.13	-0.01	A	0.16	-0.03	0.00	A	13.93	0.57	0.03	A	1.33	-0.43	-0.03	A	1.10	-0.15	-0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.9
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 3

	Reference: Male N= 42194 Focal: Female N= 40586				Reference: Hispanic N= 46988 Focal: Non Hispanic N= 35888				Reference: White N= 66274 Focal: Africa American N= 4650				Reference: White N= 66274 Focal: Native American N= 6222				Reference: White N= 66274 Focal: Asian N= 2449				Reference: White N= 66274 Focal: Hawaii N= 285				Reference: White N= 66274 Focal: Multiple Indicator N= 19			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	9.79	0.14	0.01	A	49.28	-0.32	-0.02	A	0.01	0.01	0.00	A	35.29	-0.44	-0.03	A	0.05	-0.03	0.00	A	2.17	-0.55	-0.03	A	0.26	0.08	0.00	A
2	27.29	0.30	0.01	A	13.39	-0.21	-0.01	A	2.06	0.17	0.01	A	4.18	-0.19	-0.01	A	1.74	0.29	0.01	A	3.15	-0.81	-0.03	A	2.26	0.31	0.01	A
3	416.51	-0.89	-0.05	A	79.87	-0.39	-0.03	A	15.99	-0.34	-0.02	A	45.68	-0.49	-0.04	A	10.16	-0.45	-0.02	A	0.15	-0.14	-0.01	A	4.60	0.32	0.02	A
4	1.85	0.08	0.00	A	1.63	-0.08	0.00	A	0.54	0.09	0.00	A	0.08	0.03	0.00	A	6.73	-0.51	-0.01	A	0.96	0.55	0.02	A	0.23	0.10	0.00	A
5	4.89	-0.09	-0.01	A	68.99	-0.36	-0.03	A	26.81	-0.44	-0.03	A	0.16	0.03	0.00	A	3.53	0.27	0.01	A	0.29	-0.20	-0.01	A	1.14	0.15	0.01	A
6	918.95	-1.10	-0.10	B<	102.52	-0.37	-0.03	A	6.40	0.20	0.02	A	2.82	-0.12	-0.01	A	24.25	0.54	0.05	A	0.09	0.09	0.01	A	7.23	0.32	0.03	A
7	1.65	-0.08	0.00	A	10.19	-0.20	-0.01	A	4.34	-0.24	-0.01	A	0.81	0.09	0.00	A	3.12	0.44	0.01	A	0.53	0.44	0.01	A	3.67	0.42	0.01	A
8	23.20	0.22	0.01	A	0.01	0.00	0.00	A	0.31	0.05	0.00	A	5.13	0.18	0.01	A	19.09	0.74	0.03	A	5.52	-0.85	-0.05	A	1.18	-0.16	-0.01	A
9	5.46	-0.09	-0.01	A	2.86	-0.07	-0.01	A	0.31	-0.04	0.00	A	1.69	0.09	0.01	A	0.00	0.00	0.00	A	0.02	0.05	0.00	A	0.46	0.09	0.01	A
10	33.65	0.31	0.01	A	15.04	-0.21	-0.01	A	4.26	0.22	0.01	A	8.36	-0.25	-0.01	A	0.15	-0.07	0.00	A	2.02	0.71	0.02	A	0.61	0.15	0.01	A
11	2.30	0.06	0.00	A	20.76	-0.18	-0.02	A	0.01	0.01	0.00	A	3.60	0.13	0.01	A	3.61	0.23	0.02	A	0.98	0.32	0.03	A	0.65	0.10	0.01	A
12	69.88	0.30	0.03	A	149.75	-0.45	-0.04	A	2.78	-0.13	-0.01	A	25.71	-0.34	-0.03	A	9.99	-0.34	-0.03	A	0.24	-0.15	-0.01	A	1.02	0.12	0.01	A
13	14.73	0.16	0.01	A	1.88	-0.06	-0.01	A	1.45	0.10	0.01	A	2.84	0.12	0.01	A	0.65	-0.11	-0.01	A	0.60	-0.26	-0.02	A	0.01	-0.01	0.00	A
14	103.44	0.36	0.03	A	70.85	0.31	0.02	A	1.94	0.11	0.01	A	13.68	0.25	0.02	A	18.24	-0.43	-0.04	A	0.05	-0.07	-0.01	A	0.02	0.02	0.00	A
15	45.12	0.27	0.02	A	30.01	0.22	0.02	A	13.13	0.31	0.02	A	0.17	-0.03	0.00	A	10.42	0.43	0.03	A	4.28	0.69	0.05	A	0.65	-0.11	-0.01	A
16	26.07	0.20	0.02	A	85.44	-0.36	-0.03	A	16.08	0.33	0.03	A	20.05	-0.31	-0.03	A	2.79	-0.21	-0.01	A	0.00	-0.01	0.00	A	6.81	0.34	0.03	A
17	31.98	-0.27	-0.01	A	124.02	-0.53	-0.03	A	1.01	-0.10	-0.01	A	12.19	-0.27	-0.02	A	0.11	-0.05	0.00	A	4.61	0.94	0.04	A	8.88	0.50	0.02	A
18	25.07	0.25	0.01	A	12.47	0.18	0.01	A	0.22	0.05	0.00	A	1.42	0.10	0.01	A	24.24	0.96	0.03	A	1.41	0.55	0.02	A	2.54	-0.26	-0.01	A
19	71.75	0.35	0.02	A	66.71	0.35	0.03	A	7.62	-0.24	-0.02	A	4.10	-0.15	-0.01	A	2.96	0.24	0.01	A	1.33	-0.42	-0.03	A	2.99	-0.24	-0.02	A
20	0.26	-0.02	0.00	A	212.44	0.50	0.05	A	9.84	0.23	0.02	A	75.80	0.55	0.06	A	56.18	0.74	0.08	A	3.86	0.55	0.06	A	0.54	-0.08	-0.01	A
21	0.14	0.02	0.00	A	138.54	0.49	0.04	A	15.58	0.34	0.03	A	6.55	0.18	0.02	A	1.56	0.17	0.01	A	0.08	-0.10	-0.01	A	0.51	-0.10	-0.01	A
22	24.47	-0.20	-0.01	A	0.08	0.01	0.00	A	0.32	0.05	0.00	A	26.99	-0.38	-0.03	A	2.66	0.22	0.01	A	2.33	-0.51	-0.04	A	2.79	-0.23	-0.02	A
23	8.09	0.12	0.01	A	9.83	0.13	0.01	A	29.51	-0.46	-0.03	A	19.56	-0.32	-0.03	A	6.97	0.38	0.02	A	0.40	-0.22	-0.01	A	0.18	-0.06	0.00	A
24	219.83	0.75	0.03	A	23.04	0.25	0.01	A	8.13	0.30	0.02	A	7.62	0.24	0.01	A	29.12	1.10	0.03	B>	5.44	1.21	0.04	A	3.16	-0.30	-0.01	A
25	5.11	0.11	0.00	A	19.67	0.22	0.01	A	1.00	-0.10	-0.01	A	0.02	-0.01	0.00	A	0.86	0.16	0.01	A	2.99	-0.75	-0.03	A	0.08	-0.05	0.00	A
26	35.40	0.24	0.02	A	31.11	0.23	0.02	A	1.07	-0.09	-0.01	A	31.09	-0.39	-0.03	A	5.23	-0.31	-0.02	A	4.49	-0.67	-0.05	A	17.92	-0.56	-0.04	A
27	19.70	0.16	0.01	A	1.01	-0.04	0.00	A	6.94	0.20	0.02	A	7.75	0.19	0.02	A	17.38	0.48	0.04	A	2.87	0.53	0.05	A	3.96	0.24	0.02	A
28	60.46	0.29	0.02	A	1.14	-0.04	0.00	A	14.83	-0.31	-0.03	A	5.06	0.15	0.01	A	4.64	-0.25	-0.02	A	0.18	-0.13	-0.01	A	0.45	-0.08	-0.01	A
29	26.99	0.19	0.02	A	12.32	0.13	0.01	A	8.30	-0.23	-0.02	A	0.02	0.01	0.00	A	0.47	0.08	0.01	A	0.00	-0.01	0.00	A	0.01	0.01	0.00	A
30	3.91	0.07	0.01	A	148.22	-0.46	-0.03	A	0.43	0.05	0.00	A	12.76	-0.26	-0.02	A	3.07	0.20	0.02	A	0.13	-0.11	-0.01	A	0.85	0.11	0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.9 (continued)
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 3

	Reference: Male N= 42194 Focal: Female N= 40586				Reference: Hispanic N= 46988 Focal: Non Hispanic N= 35888				Reference: White N= 66274 Focal: Africa American N= 4650				Reference: White N= 66274 Focal: Native American N= 6222				Reference: White N= 66274 Focal: Asian N= 2449				Reference: White N= 66274 Focal: Hawaii N= 285				Reference: White N= 66274 Focal: Multiple Indicator N= 19			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	5.38	0.10	0.00	A	17.06	-0.17	-0.01	A	4.37	-0.18	-0.01	A	8.99	-0.22	-0.02	A	0.96	0.13	0.01	A	1.38	-0.40	-0.03	A	2.76	-0.23	-0.02	A
32	151.61	0.96	0.02	A	0.19	-0.03	0.00	A	1.46	-0.18	0.00	A	1.17	0.13	0.00	A	0.07	0.08	0.00	A	1.68	1.06	0.02	A	2.85	0.48	0.01	A
33	65.91	0.41	0.02	A	85.17	-0.46	-0.02	A	0.50	0.07	0.00	A	6.68	-0.21	-0.01	A	0.07	-0.05	0.00	A	1.69	0.60	0.02	A	3.15	0.32	0.01	A
34	3.80	0.11	0.00	A	0.16	0.02	0.00	A	4.20	-0.23	-0.01	A	14.94	-0.35	-0.02	A	2.64	0.36	0.01	A	1.11	0.60	0.02	A	7.47	0.57	0.02	A
35	75.84	0.32	0.03	A	28.86	-0.20	-0.01	A	3.69	0.15	0.01	A	18.90	-0.30	-0.03	A	17.95	-0.46	-0.04	A	0.04	-0.06	-0.01	A	1.51	-0.15	-0.01	A
36	5.86	-0.10	-0.01	A	0.03	0.01	0.00	A	7.98	-0.23	-0.02	A	12.26	-0.24	-0.02	A	22.87	0.65	0.04	A	0.00	0.00	0.00	A	0.05	0.03	0.00	A
37	29.21	0.23	0.01	A	72.03	-0.37	-0.02	A	0.34	-0.05	0.00	A	47.75	-0.50	-0.04	A	0.23	-0.07	0.00	A	0.02	-0.05	0.00	A	4.23	0.31	0.02	A
38	154.70	0.50	0.03	A	10.29	-0.13	-0.01	A	3.12	-0.15	-0.01	A	0.15	-0.03	0.00	A	0.21	-0.06	0.00	A	0.01	-0.04	0.00	A	0.01	0.02	0.00	A
39	106.33	0.37	0.03	A	65.99	-0.30	-0.02	A	3.16	-0.14	-0.01	A	0.60	0.05	0.01	A	1.85	0.14	0.01	A	2.01	0.43	0.04	A	0.03	-0.02	0.00	A
40	4.21	-0.08	-0.01	A	1.78	-0.05	0.00	A	52.17	-0.56	-0.05	A	3.76	0.13	0.01	A	0.00	0.01	0.00	A	0.92	-0.31	-0.02	A	1.07	-0.13	-0.01	A
41	28.33	0.22	0.01	A	0.65	0.03	0.00	A	1.53	0.11	0.01	A	2.59	-0.12	-0.01	A	20.09	-0.60	-0.03	A	3.36	-0.61	-0.04	A	0.19	0.06	0.00	A
42	25.83	-0.19	-0.02	A	345.33	-0.71	-0.05	A	6.16	0.20	0.02	A	32.11	-0.42	-0.03	A	5.18	-0.25	-0.02	A	0.28	0.16	0.01	A	7.56	0.34	0.03	A
43	7.30	0.09	0.01	A	169.21	-0.47	-0.04	A	1.04	-0.08	-0.01	A	0.01	-0.01	0.00	A	11.18	0.35	0.03	A	0.11	0.10	0.01	A	0.01	0.01	0.00	A
44	249.13	0.56	0.05	A	48.14	0.25	0.02	A	0.55	0.06	0.01	A	4.59	0.15	0.01	A	8.55	0.31	0.03	A	2.46	0.46	0.04	A	2.24	-0.17	-0.02	A
45	67.09	0.37	0.02	A	24.48	0.23	0.02	A	2.23	-0.14	-0.01	A	0.94	0.08	0.01	A	23.16	0.81	0.03	A	1.02	0.42	0.02	A	0.01	0.01	0.00	A
46	1.81	-0.05	0.00	A	0.65	0.03	0.00	A	1.42	0.09	0.01	A	0.60	0.05	0.00	A	10.38	0.38	0.03	A	0.06	0.08	0.01	A	0.14	-0.05	0.00	A
47	19.73	0.18	0.01	A	10.92	-0.14	-0.01	A	42.80	-0.55	-0.04	A	3.23	0.13	0.01	A	5.63	-0.32	-0.02	A	2.68	-0.55	-0.04	A	0.01	0.01	0.00	A
48	8.67	-0.11	-0.01	A	89.46	-0.36	-0.03	A	32.88	-0.45	-0.04	A	0.26	-0.03	0.00	A	2.43	-0.18	-0.01	A	1.22	0.36	0.03	A	0.45	-0.08	-0.01	A
49	1.70	0.05	0.00	A	30.13	0.20	0.02	A	23.26	-0.37	-0.03	A	23.63	0.33	0.03	A	10.36	0.33	0.03	A	0.36	-0.18	-0.02	A	0.00	0.00	0.00	A
50	58.56	-0.28	-0.02	A	140.93	-0.44	-0.03	A	9.83	-0.25	-0.02	A	29.08	-0.37	-0.03	A	3.41	0.21	0.02	A	0.06	0.08	0.01	A	4.94	0.27	0.02	A
51	9.39	-0.12	-0.01	A	1.09	0.04	0.00	A	0.03	-0.01	0.00	A	19.21	-0.30	-0.03	A	3.08	-0.21	-0.01	A	2.88	-0.53	-0.04	A	0.14	-0.05	0.00	A
52	21.76	-0.21	-0.01	A	229.68	-0.68	-0.04	A	1.31	0.10	0.01	A	41.19	-0.48	-0.04	A	7.47	0.44	0.02	A	1.00	0.38	0.02	A	4.19	0.31	0.02	A
53	21.43	0.18	0.01	A	11.11	0.13	0.01	A	0.07	0.02	0.00	A	14.04	-0.26	-0.02	A	5.63	0.30	0.02	A	1.40	-0.37	-0.03	A	3.60	-0.25	-0.02	A
54	2.40	0.06	0.01	A	10.37	0.13	0.01	A	1.69	0.11	0.01	A	32.38	-0.41	-0.03	A	3.42	-0.24	-0.01	A	6.08	-0.85	-0.06	A	4.14	-0.27	-0.02	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.10
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 4

	Reference: Male N= 41630 Focal: Female N= 40188				Reference: Hispanic N= 46215 Focal: Non Hispanic N= 35718				Reference: White N= 65612 Focal: Africa American N= 4706				Reference: White N= 65612 Focal: Native American N= 6112				Reference: White N= 65612 Focal: Asian N= 2415				Reference: White N= 65612 Focal: Hawaii N= 264				Reference: White N= 65612 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	36.48	-0.31	-0.01	A	1.95	0.07	0.00	A	16.47	-0.40	-0.02	A	7.36	0.24	0.01	A	4.56	-0.35	-0.01	A	0.18	-0.18	-0.01	A	0.08	-0.05	0.00	A
2	7.67	0.10	0.01	A	610.85	-0.93	-0.08	A	3.46	0.14	0.01	A	110.66	-0.71	-0.07	A	50.24	-0.81	-0.06	A	1.27	-0.37	-0.03	A	3.65	0.24	0.02	A
3	339.06	-0.75	-0.05	A	161.08	-0.52	-0.04	A	2.05	-0.12	-0.01	A	0.54	0.05	0.00	A	11.21	-0.43	-0.03	A	0.84	-0.31	-0.02	A	1.16	0.15	0.01	A
4	11.81	0.14	0.01	A	0.10	-0.01	0.00	A	8.05	-0.24	-0.02	A	5.68	-0.17	-0.01	A	0.00	0.00	0.00	A	0.70	0.32	0.02	A	6.66	-0.36	-0.02	A
5	8.52	0.11	0.01	A	8.18	-0.11	-0.01	A	19.07	0.34	0.03	A	53.17	-0.54	-0.04	A	46.56	-0.76	-0.06	A	2.47	-0.53	-0.04	A	0.39	0.08	0.01	A
6	20.79	-0.16	-0.02	A	87.62	-0.34	-0.03	A	0.37	0.05	0.00	A	3.01	0.12	0.01	A	2.38	0.16	0.01	A	0.57	-0.23	-0.02	A	0.00	0.00	0.00	A
7	39.33	0.32	0.01	A	4.23	-0.11	-0.01	A	10.79	-0.33	-0.02	A	0.51	-0.06	0.00	A	0.94	0.19	0.01	A	1.87	-0.62	-0.03	A	0.25	-0.09	0.00	A
8	13.16	0.15	0.01	A	411.23	-0.86	-0.06	A	35.09	0.53	0.04	A	0.04	-0.01	0.00	A	1.04	-0.15	-0.01	A	0.01	-0.04	0.00	A	6.87	0.39	0.02	A
9	0.31	0.02	0.00	A	46.12	0.25	0.02	A	0.00	0.00	0.00	A	1.24	-0.07	-0.01	A	18.88	0.49	0.04	A	2.51	0.52	0.05	A	0.30	-0.06	-0.01	A
10	13.59	-0.14	-0.01	A	112.73	-0.41	-0.04	A	9.35	-0.24	-0.02	A	0.05	-0.01	0.00	A	1.83	0.17	0.01	A	0.07	0.09	0.01	A	3.55	0.25	0.02	A
11	97.50	0.41	0.03	A	28.48	0.23	0.02	A	6.55	0.22	0.02	A	0.07	-0.02	0.00	A	13.28	0.53	0.03	A	1.95	0.54	0.03	A	2.66	-0.23	-0.02	A
12	79.64	0.33	0.03	A	39.23	0.24	0.02	A	0.05	0.02	0.00	A	0.27	0.04	0.00	A	8.00	0.33	0.02	A	0.15	0.13	0.01	A	0.84	-0.11	-0.01	A
13	0.01	0.00	0.00	A	12.29	-0.14	-0.01	A	18.59	-0.35	-0.03	A	3.05	-0.12	-0.01	A	16.10	0.52	0.03	A	0.03	0.07	0.00	A	0.00	0.00	0.00	A
14	1.53	0.06	0.00	A	8.10	-0.13	-0.01	A	3.57	-0.17	-0.01	A	1.27	-0.09	-0.01	A	7.42	0.46	0.02	A	1.62	0.49	0.03	A	0.20	-0.07	0.00	A
15	18.84	0.16	0.01	A	8.33	0.11	0.01	A	0.04	-0.02	0.00	A	1.43	-0.08	-0.01	A	14.53	0.44	0.03	A	0.05	-0.07	-0.01	A	0.06	0.03	0.00	A
16	97.94	0.40	0.03	A	121.28	0.46	0.03	A	13.49	-0.30	-0.02	A	16.94	0.31	0.02	A	0.30	0.07	0.00	A	0.50	-0.26	-0.02	A	1.86	-0.19	-0.01	A
17	0.22	0.02	0.00	A	194.18	-0.57	-0.04	A	4.05	-0.17	-0.01	A	3.78	-0.14	-0.01	A	6.64	0.36	0.02	A	0.12	0.13	0.01	A	4.17	0.29	0.02	A
18	2.27	-0.05	-0.01	A	15.29	-0.14	-0.01	A	6.02	0.18	0.02	A	13.24	-0.24	-0.02	A	0.04	-0.02	0.00	A	0.08	0.09	0.01	A	0.11	0.04	0.00	A
19	16.02	-0.18	-0.01	A	5.86	0.11	0.01	A	0.54	-0.06	0.00	A	0.50	0.05	0.00	A	0.63	0.12	0.01	A	1.27	-0.42	-0.03	A	0.00	-0.01	0.00	A
20	84.04	0.31	0.03	A	82.99	0.32	0.03	A	2.48	0.12	0.01	A	3.69	0.12	0.01	A	0.89	0.09	0.01	A	0.10	0.09	0.01	A	2.56	0.18	0.02	A
21	6.16	0.10	0.01	A	38.58	-0.25	-0.02	A	22.80	-0.38	-0.03	A	5.60	0.17	0.01	A	5.09	-0.29	-0.02	A	1.46	-0.42	-0.03	A	0.01	-0.02	0.00	A
22	239.44	-0.53	-0.05	A	8.06	-0.10	-0.01	A	58.25	-0.57	-0.06	A	15.70	0.26	0.03	A	4.19	-0.21	-0.02	A	1.82	-0.41	-0.04	A	0.01	-0.01	0.00	A
23	84.82	0.37	0.03	A	0.29	-0.02	0.00	A	0.00	-0.01	0.00	A	31.47	-0.41	-0.03	A	1.65	0.18	0.01	A	3.08	-0.62	-0.04	A	0.12	0.05	0.00	A
24	13.13	-0.13	-0.01	A	72.54	-0.32	-0.03	A	0.02	-0.01	0.00	A	8.29	-0.20	-0.02	A	0.95	-0.11	-0.01	A	0.14	0.12	0.01	A	1.04	-0.13	-0.01	A
25	50.51	0.38	0.01	A	0.45	-0.04	0.00	A	6.78	-0.26	-0.01	A	11.54	-0.29	-0.02	A	0.04	0.04	0.00	A	0.00	0.02	0.00	A	0.19	0.08	0.00	A
26	162.24	0.63	0.03	A	11.94	0.17	0.01	A	0.00	0.00	0.00	A	2.15	0.12	0.01	A	7.27	-0.46	-0.02	A	0.17	0.17	0.01	A	0.01	0.01	0.00	A
27	16.66	0.16	0.01	A	159.75	-0.51	-0.04	A	13.61	0.31	0.02	A	16.19	-0.29	-0.02	A	1.48	0.17	0.01	A	0.23	-0.17	-0.01	A	0.69	0.12	0.01	A
28	15.08	0.16	0.01	A	18.19	-0.18	-0.01	A	6.45	0.22	0.02	A	15.23	-0.28	-0.02	A	7.55	0.39	0.02	A	0.55	0.29	0.02	A	4.27	0.31	0.02	A
29	0.77	0.03	0.00	A	268.44	-0.67	-0.04	A	36.62	-0.54	-0.04	A	19.28	-0.35	-0.02	A	10.04	0.35	0.03	A	0.13	-0.12	-0.01	A	0.01	-0.01	0.00	A
30	38.65	0.25	0.02	A	0.10	0.01	0.00	A	0.65	-0.07	-0.01	A	30.96	-0.40	-0.03	A	1.19	0.14	0.01	A	0.38	-0.23	-0.02	A	1.83	-0.19	-0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.10 (continued)
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 4

	Reference: Male N= 41630 Focal: Female N= 40188				Reference: Hispanic N= 46215 Focal: Non Hispanic N= 35718				Reference: White N= 65612 Focal: Africa American N= 4706				Reference: White N= 65612 Focal: Native American N= 6112				Reference: White N= 65612 Focal: Asian N= 2415				Reference: White N= 65612 Focal: Hawaii N= 264				Reference: White N= 65612 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	131.18	0.41	0.04	A	2.38	0.06	0.01	A	0.54	-0.06	-0.01	A	17.59	0.28	0.03	A	1.65	-0.14	-0.01	A	0.13	-0.12	-0.01	A	0.68	-0.10	-0.01	A
32	135.29	0.52	0.03	A	184.52	0.61	0.04	A	9.41	-0.27	-0.02	A	36.70	-0.46	-0.03	A	0.88	0.14	0.01	A	0.05	-0.09	-0.01	A	0.60	-0.12	-0.01	A
33	30.12	0.22	0.02	A	63.20	-0.33	-0.02	A	2.15	-0.12	-0.01	A	1.51	0.09	0.01	A	7.13	0.37	0.02	A	0.54	0.26	0.02	A	0.02	0.02	0.00	A
34	1.74	-0.05	-0.01	A	25.04	-0.18	-0.01	A	25.91	-0.38	-0.04	A	9.30	-0.21	-0.02	A	15.25	0.41	0.04	A	0.09	-0.09	-0.01	A	0.08	0.03	0.00	A
35	0.40	0.03	0.00	A	26.76	-0.22	-0.02	A	0.96	0.09	0.01	A	67.37	-0.61	-0.05	A	3.74	0.27	0.01	A	0.57	-0.26	-0.02	A	0.03	0.03	0.00	A
36	173.44	0.69	0.03	A	3.13	-0.09	0.00	A	5.24	0.24	0.01	A	27.43	-0.44	-0.03	A	9.67	-0.53	-0.02	A	0.13	-0.16	-0.01	A	8.23	0.56	0.02	A
37	51.11	-0.31	-0.02	A	52.01	-0.31	-0.02	A	0.18	0.04	0.00	A	181.64	-0.99	-0.08	A	5.42	-0.34	-0.02	A	2.89	-0.63	-0.04	A	2.20	-0.22	-0.01	A
38	0.75	-0.03	0.00	A	35.06	-0.24	-0.02	A	10.27	-0.26	-0.02	A	0.95	0.07	0.01	A	1.65	-0.17	-0.01	A	0.11	0.12	0.01	A	0.64	-0.11	-0.01	A
39	24.79	0.22	0.01	A	17.60	0.18	0.01	A	2.52	-0.14	-0.01	A	0.09	-0.02	0.00	A	1.39	0.18	0.01	A	1.19	-0.42	-0.03	A	0.33	-0.09	-0.01	A
40	125.15	0.45	0.03	A	66.93	0.33	0.03	A	3.96	-0.16	-0.01	A	2.80	-0.12	-0.01	A	14.20	0.53	0.03	A	0.42	-0.23	-0.02	A	0.00	-0.01	0.00	A
41	0.06	0.01	0.00	A	259.26	0.64	0.05	A	0.13	-0.03	0.00	A	8.39	0.20	0.02	A	26.17	0.69	0.04	A	1.36	-0.39	-0.03	A	7.03	-0.34	-0.03	A
42	6.13	-0.10	-0.01	A	1.51	0.05	0.01	A	0.76	-0.07	-0.01	A	21.58	-0.32	-0.03	A	0.93	-0.12	-0.01	A	0.02	-0.04	0.00	A	0.69	0.11	0.01	A
43	11.30	-0.14	-0.01	A	31.46	-0.23	-0.01	A	3.07	-0.14	-0.01	A	1.81	-0.10	-0.01	A	0.16	0.05	0.00	A	1.17	-0.38	-0.03	A	0.11	0.05	0.00	A
44	27.91	0.32	0.01	A	75.45	0.53	0.02	A	10.18	-0.36	-0.02	A	3.12	0.17	0.01	A	3.87	0.47	0.01	A	0.07	0.14	0.00	A	3.70	-0.41	-0.01	A
45	4.06	0.10	0.00	A	0.38	0.03	0.00	A	18.10	-0.41	-0.02	A	2.86	-0.14	-0.01	A	1.48	-0.19	-0.01	A	0.02	0.07	0.00	A	0.04	0.04	0.00	A
46	83.67	0.58	0.01	A	37.60	0.38	0.01	A	14.48	-0.44	-0.02	A	0.10	0.03	0.00	A	0.05	-0.05	0.00	A	3.06	1.06	0.03	A	0.28	-0.12	0.00	A
47	1.46	-0.07	0.00	A	0.79	-0.05	0.00	A	1.19	-0.13	-0.01	A	6.13	0.25	0.01	A	0.45	0.16	0.00	A	0.77	0.50	0.01	A	1.97	0.33	0.01	A
48	13.38	0.18	0.01	A	3.99	-0.10	-0.01	A	1.90	-0.13	-0.01	A	0.33	0.05	0.00	A	1.00	0.18	0.01	A	0.62	0.33	0.02	A	0.01	0.02	0.00	A
49	60.52	0.54	0.01	A	24.70	0.34	0.01	A	3.24	-0.23	-0.01	A	0.00	0.00	0.00	A	0.02	-0.04	0.00	A	0.50	0.46	0.01	A	0.27	-0.13	0.00	A
50	126.76	0.47	0.03	A	54.32	0.31	0.02	A	2.92	-0.15	-0.01	A	0.79	0.07	0.01	A	0.17	0.06	0.00	A	0.64	-0.28	-0.02	A	0.23	-0.07	0.00	A
51	58.37	-0.29	-0.02	A	54.93	-0.29	-0.02	A	14.10	0.30	0.02	A	0.32	-0.04	0.00	A	33.48	0.68	0.05	A	1.78	0.43	0.04	A	4.34	0.27	0.02	A
52	73.36	-0.35	-0.02	A	4.99	0.09	0.01	A	6.22	0.21	0.02	A	5.23	-0.17	-0.01	A	0.46	0.09	0.01	A	0.25	0.18	0.01	A	0.05	-0.03	0.00	A
53	0.12	0.01	0.00	A	4.31	0.08	0.00	A	0.23	-0.04	0.00	A	0.25	-0.04	0.00	A	4.30	-0.24	-0.02	A	0.11	0.11	0.01	A	6.89	0.34	0.03	A
54	171.59	0.51	0.04	A	2.70	0.06	0.01	A	15.93	0.33	0.03	A	0.74	0.06	0.01	A	1.41	0.15	0.01	A	0.64	0.27	0.02	A	0.07	-0.04	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.11
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 5

	Reference: Male N= 42012 Focal: Female N= 40289				Reference: Hispanic N= 46555 Focal: Non Hispanic N= 35827				Reference: White N= 66148 Focal: Africa American N= 4644				Reference: White N= 66148 Focal: Native American N= 6018				Reference: White N= 66148 Focal: Asian N= 2514				Reference: White N= 66148 Focal: Hawaii N= 278				Reference: White N= 66148 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	29.13	-0.30	-0.01	A	4.36	-0.12	-0.01	A	67.50	-0.82	-0.04	A	1.62	-0.12	-0.01	A	5.64	-0.45	-0.01	A	0.10	0.16	0.01	A	0.36	-0.12	0.00	A
2	2.68	-0.06	0.00	A	105.28	-0.37	-0.03	A	9.38	-0.23	-0.02	A	4.67	-0.15	-0.01	A	2.37	0.16	0.01	A	0.79	0.27	0.03	A	1.20	-0.13	-0.01	A
3	25.18	-0.22	-0.01	A	9.93	-0.14	-0.01	A	22.97	-0.41	-0.03	A	37.47	0.48	0.04	A	4.32	0.31	0.01	A	0.23	0.19	0.01	A	0.50	0.11	0.01	A
4	120.07	0.61	0.02	A	0.29	0.03	0.00	A	3.22	-0.19	-0.01	A	173.00	-1.10	-0.07	B<	5.90	-0.48	-0.01	A	0.00	-0.03	0.00	A	7.13	-0.51	-0.02	A
5	18.84	-0.15	-0.01	A	0.21	-0.02	0.00	A	0.48	-0.05	0.00	A	4.23	-0.14	-0.01	A	24.43	0.53	0.05	A	0.31	-0.18	-0.02	A	0.51	0.09	0.01	A
6	128.40	-0.48	-0.03	A	28.60	-0.22	-0.01	A	19.22	-0.37	-0.03	A	20.84	0.35	0.03	A	12.70	0.51	0.03	A	0.32	-0.20	-0.01	A	3.42	-0.27	-0.02	A
7	1.01	0.04	0.00	A	162.79	0.49	0.04	A	5.24	0.18	0.02	A	54.96	0.52	0.05	A	5.49	-0.26	-0.02	A	5.74	-0.75	-0.06	A	1.66	-0.16	-0.01	A
8	42.87	0.26	0.02	A	60.60	-0.31	-0.02	A	2.75	0.14	0.01	A	24.40	-0.35	-0.03	A	3.37	0.23	0.01	A	0.63	0.28	0.02	A	0.23	0.07	0.00	A
9	0.43	0.03	0.00	A	117.07	-0.47	-0.03	A	11.26	-0.29	-0.02	A	17.03	-0.31	-0.02	A	1.91	0.21	0.01	A	0.48	-0.27	-0.02	A	0.04	-0.03	0.00	A
10	5.73	-0.09	-0.01	A	112.33	0.42	0.04	A	16.35	-0.32	-0.03	A	22.78	-0.34	-0.03	A	0.09	-0.04	0.00	A	0.03	0.06	0.00	A	1.23	-0.15	-0.01	A
11	73.10	0.38	0.02	A	0.01	0.00	0.00	A	15.56	-0.35	-0.02	A	0.01	-0.01	0.00	A	0.81	-0.13	-0.01	A	0.40	0.24	0.01	A	0.07	0.04	0.00	A
12	12.21	0.13	0.01	A	105.32	0.39	0.04	A	2.46	-0.12	-0.01	A	37.13	0.42	0.04	A	0.00	0.00	0.00	A	2.29	0.50	0.04	A	2.49	-0.20	-0.02	A
13	141.25	0.46	0.03	A	5.86	0.09	0.01	A	2.12	-0.12	-0.01	A	0.02	0.01	0.00	A	41.47	0.83	0.05	A	8.10	0.96	0.07	A	0.02	-0.02	0.00	A
14	154.85	0.45	0.04	A	9.75	0.12	0.01	A	0.01	-0.01	0.00	A	6.62	0.18	0.02	A	0.90	-0.10	-0.01	A	3.21	0.60	0.05	A	1.22	0.14	0.01	A
15	97.07	0.44	0.02	A	6.25	-0.11	-0.01	A	5.55	-0.21	-0.01	A	55.40	-0.56	-0.04	A	14.25	-0.54	-0.02	A	5.50	-0.88	-0.05	A	11.08	-0.52	-0.03	A
16	31.52	-0.21	-0.02	A	1.55	-0.05	0.00	A	0.18	0.03	0.00	A	9.92	-0.22	-0.02	A	0.98	0.12	0.01	A	0.03	-0.06	0.00	A	0.05	-0.03	0.00	A
17	140.93	0.72	0.02	A	4.93	0.13	0.01	A	7.10	-0.30	-0.01	A	0.16	-0.04	0.00	A	3.01	-0.38	-0.01	A	0.22	0.25	0.01	A	0.01	-0.02	0.00	A
18	3.62	-0.07	-0.01	A	24.75	-0.19	-0.01	A	1.05	0.08	0.01	A	1.84	-0.09	-0.01	A	8.70	0.35	0.03	A	0.00	0.02	0.00	A	2.42	-0.20	-0.02	A
19	125.99	0.54	0.02	A	3.69	-0.09	-0.01	A	0.27	-0.05	0.00	A	6.57	-0.20	-0.01	A	5.07	-0.36	-0.01	A	0.31	-0.21	-0.01	A	0.11	0.06	0.00	A
20	0.18	0.01	0.00	A	130.61	-0.40	-0.04	A	0.66	-0.06	-0.01	A	22.27	-0.32	-0.03	A	40.46	-0.64	-0.06	A	0.01	0.02	0.00	A	4.36	0.25	0.02	A
21	0.07	0.01	0.00	A	194.59	-0.60	-0.04	A	1.59	-0.11	-0.01	A	0.82	-0.07	-0.01	A	1.06	-0.15	-0.01	A	0.95	-0.36	-0.02	A	7.46	0.44	0.02	A
22	7.34	-0.10	-0.01	A	272.16	-0.63	-0.05	A	0.96	0.08	0.01	A	4.95	-0.15	-0.01	A	0.86	0.11	0.01	A	0.00	0.02	0.00	A	9.24	0.41	0.03	A
23	50.43	0.26	0.03	A	5.00	-0.08	-0.01	A	15.57	0.31	0.03	A	0.44	-0.05	0.00	A	16.73	0.42	0.04	A	0.94	0.30	0.03	A	1.10	0.13	0.01	A
24	60.66	-0.30	-0.02	A	22.57	-0.19	-0.02	A	0.04	0.02	0.00	A	0.23	0.03	0.00	A	1.07	-0.12	-0.01	A	0.48	0.23	0.02	A	0.03	0.02	0.00	A
25	35.97	0.27	0.01	A	54.78	0.33	0.02	A	0.00	0.00	0.00	A	15.40	0.31	0.02	A	5.80	0.38	0.02	A	2.11	0.61	0.03	A	0.05	0.03	0.00	A
26	129.41	-0.51	-0.03	A	168.14	-0.58	-0.04	A	5.80	-0.22	-0.01	A	0.24	-0.04	0.00	A	0.87	-0.14	-0.01	A	0.83	0.37	0.02	A	0.22	0.07	0.00	A
27	23.89	-0.18	-0.02	A	5.65	0.09	0.01	A	15.81	-0.31	-0.03	A	0.00	0.00	0.00	A	0.20	0.05	0.00	A	2.38	0.51	0.04	A	0.00	0.00	0.00	A
28	127.82	0.52	0.03	A	203.49	-0.65	-0.04	A	0.19	0.04	0.00	A	69.55	-0.64	-0.05	A	9.07	0.50	0.02	A	0.28	0.23	0.01	A	2.84	0.29	0.01	A
29	50.13	-0.26	-0.02	A	1.17	-0.04	0.00	A	1.39	-0.09	-0.01	A	3.44	-0.13	-0.01	A	7.71	0.32	0.02	A	0.03	0.05	0.00	A	0.78	-0.11	-0.01	A
30	83.38	0.32	0.03	A	72.77	0.31	0.03	A	6.08	0.19	0.02	A	23.69	0.33	0.03	A	26.57	0.56	0.05	A	1.09	0.32	0.03	A	0.09	0.04	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.11 (continued)
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 5

	Reference: Male N= 42012 Focal: Female N= 40289				Reference: Hispanic N= 46555 Focal: Non Hispanic N= 35827				Reference: White N= 66148 Focal: Africa American N= 4644				Reference: White N= 66148 Focal: Native American N= 6018				Reference: White N= 66148 Focal: Asian N= 2514				Reference: White N= 66148 Focal: Hawaii N= 278				Reference: White N= 66148 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	11.53	-0.14	-0.01	A	0.94	0.04	0.00	A	0.60	0.07	0.00	A	1.12	0.08	0.01	A	2.97	-0.22	-0.01	A	7.51	-0.95	-0.06	A	0.18	0.06	0.00	A
32	119.60	0.53	0.02	A	47.74	0.33	0.02	A	2.02	0.14	0.01	A	18.24	0.36	0.02	A	0.31	0.09	0.00	A	0.16	0.17	0.01	A	0.00	0.00	0.00	A
33	6.62	0.09	0.01	A	1.41	-0.04	-0.01	A	51.75	0.53	0.05	A	1.34	0.08	0.01	A	2.15	-0.15	-0.01	A	2.88	0.51	0.05	A	0.15	0.05	0.00	A
34	8.52	0.10	0.01	A	10.76	0.12	0.01	A	8.17	0.22	0.02	A	3.69	-0.13	-0.01	A	0.01	0.01	0.00	A	3.12	0.57	0.05	A	0.20	0.05	0.00	A
35	0.68	0.03	0.00	A	23.46	-0.17	-0.02	A	1.46	0.09	0.01	A	5.07	0.15	0.01	A	0.04	-0.02	0.00	A	0.04	-0.06	-0.01	A	9.22	0.36	0.03	A
36	0.33	0.03	0.00	A	2.40	-0.09	0.00	A	2.68	-0.18	-0.01	A	2.63	0.16	0.01	A	2.75	-0.32	-0.01	A	1.19	0.58	0.02	A	0.35	0.13	0.00	A
37	335.38	0.92	0.04	A	0.32	-0.03	0.00	A	1.11	0.10	0.01	A	0.09	0.03	0.00	A	0.11	0.06	0.00	A	1.76	0.63	0.03	A	1.89	0.25	0.01	A
38	8.60	0.13	0.01	A	16.70	-0.18	-0.01	A	24.89	-0.43	-0.03	A	2.97	0.13	0.01	A	2.55	-0.23	-0.01	A	2.03	-0.51	-0.03	A	4.00	-0.30	-0.02	A
39	3.02	0.06	0.01	A	130.18	-0.42	-0.03	A	6.73	0.20	0.02	A	3.48	-0.12	-0.01	A	0.32	0.06	0.01	A	2.65	-0.48	-0.04	A	0.28	0.07	0.01	A
40	300.51	0.86	0.04	A	18.56	-0.21	-0.01	A	1.77	-0.13	-0.01	A	4.94	-0.18	-0.01	A	0.01	0.02	0.00	A	0.35	-0.23	-0.01	A	1.30	0.21	0.01	A
41	64.38	0.28	0.03	A	143.81	-0.42	-0.04	A	0.18	0.03	0.00	A	0.14	-0.02	0.00	A	7.17	0.26	0.03	A	1.04	0.29	0.03	A	2.37	0.18	0.02	A
42	318.55	0.91	0.04	A	18.93	0.22	0.01	A	7.28	-0.26	-0.01	A	2.12	0.12	0.01	A	0.00	0.01	0.00	A	0.04	0.08	0.00	A	0.02	-0.03	0.00	A
43	48.97	-0.31	-0.02	A	9.31	-0.14	-0.01	A	0.70	-0.08	-0.01	A	29.13	-0.41	-0.03	A	14.80	-0.53	-0.03	A	0.00	0.00	0.00	A	1.08	-0.16	-0.01	A
44	205.96	1.22	0.02	B>	4.62	0.17	0.00	A	1.32	-0.17	0.00	A	12.53	0.48	0.01	A	0.30	-0.16	0.00	A	2.41	1.31	0.02	A	0.45	0.20	0.00	A
45	112.67	-0.47	-0.03	A	9.10	-0.13	-0.01	A	0.41	-0.06	0.00	A	20.07	-0.34	-0.03	A	1.24	-0.16	-0.01	A	0.07	-0.10	-0.01	A	0.02	-0.02	0.00	A
46	0.79	0.03	0.00	A	172.14	-0.51	-0.04	A	0.05	-0.02	0.00	A	60.06	-0.56	-0.05	A	27.18	-0.59	-0.04	A	0.08	-0.10	-0.01	A	0.36	0.08	0.01	A
47	3.45	0.07	0.00	A	73.13	0.34	0.03	A	0.42	0.05	0.00	A	0.77	-0.06	-0.01	A	13.68	0.48	0.03	A	0.92	-0.31	-0.02	A	0.02	-0.02	0.00	A
48	24.68	-0.17	-0.02	A	15.21	0.14	0.01	A	3.41	-0.14	-0.01	A	0.19	-0.03	0.00	A	0.61	0.08	0.01	A	1.44	-0.36	-0.03	A	1.49	-0.15	-0.01	A
49	0.74	0.04	0.00	A	3.66	0.09	0.00	A	0.08	-0.03	0.00	A	2.57	-0.12	-0.01	A	0.00	0.00	0.00	A	0.07	0.10	0.01	A	0.73	-0.14	-0.01	A
50	38.91	0.28	0.01	A	10.96	0.15	0.01	A	9.38	-0.28	-0.02	A	0.16	-0.03	0.00	A	4.31	0.32	0.01	A	4.15	0.83	0.04	A	0.00	0.01	0.00	A
51	426.51	0.90	0.05	A	12.25	0.15	0.01	A	13.05	-0.32	-0.02	A	1.30	0.09	0.01	A	3.24	-0.25	-0.01	A	0.34	0.22	0.01	A	0.00	0.00	0.00	A
52	91.12	0.36	0.03	A	3.39	-0.07	0.00	A	24.92	-0.39	-0.03	A	0.24	0.03	0.00	A	1.13	0.12	0.01	A	0.11	0.11	0.01	A	0.44	-0.09	-0.01	A
53	4.11	-0.08	0.00	A	6.87	-0.10	-0.01	A	0.18	-0.03	0.00	A	31.84	-0.43	-0.03	A	0.21	0.05	0.00	A	3.41	-0.59	-0.05	A	0.33	0.07	0.01	A
54	114.03	0.37	0.04	A	5.01	0.08	0.01	A	10.61	-0.25	-0.02	A	1.58	0.09	0.01	A	2.59	-0.16	-0.02	A	0.20	0.13	0.01	A	2.60	-0.20	-0.02	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.12
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 6

	Reference: Male N= 41651 Focal: Female N= 40328				Reference: Hispanic N= 47036 Focal: Non Hispanic N= 35020				Reference: White N= 65927 Focal: Africa American N= 4866				Reference: White N= 65927 Focal: Native American N= 6088				Reference: White N= 65927 Focal: Asian N= 2352				Reference: White N= 65927 Focal: Hawaii N= 259				Reference: White N= 65927 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	2.51	-0.09	0.00	A	45.40	-0.37	-0.02	A	7.23	-0.28	-0.01	A	0.65	-0.07	0.00	A	7.98	-0.54	-0.01	A	2.75	-0.77	-0.03	A	3.18	0.36	0.01	A
2	40.54	-0.23	-0.02	A	5.56	-0.09	-0.01	A	0.38	-0.05	0.00	A	9.47	-0.21	-0.02	A	79.65	1.05	0.09	B>	1.55	0.42	0.04	A	0.49	-0.08	-0.01	A
3	18.71	0.42	0.00	A	8.26	0.28	0.00	A	3.00	-0.30	-0.01	A	0.03	-0.02	0.00	A	7.62	-0.88	-0.01	A	0.85	-0.73	-0.01	A	0.06	-0.08	0.00	A
4	76.14	0.31	0.03	A	3.23	-0.07	-0.01	A	21.58	-0.34	-0.03	A	2.07	-0.10	-0.01	A	4.11	0.23	0.02	A	1.00	0.32	0.03	A	1.03	0.12	0.01	A
5	201.16	-0.79	-0.03	A	389.83	-1.10	-0.05	B<	14.08	0.42	0.02	A	87.97	-0.79	-0.05	A	6.62	-0.53	-0.01	A	0.16	-0.21	-0.01	A	13.09	0.79	0.03	A
6	328.41	1.17	0.03	B>	6.75	0.16	0.01	A	31.48	-0.64	-0.03	A	0.17	0.04	0.00	A	1.18	-0.27	0.00	A	0.77	-0.52	-0.01	A	1.83	-0.31	-0.01	A
7	195.31	0.92	0.02	A	2.70	0.11	0.00	A	7.88	-0.33	-0.01	A	0.27	-0.05	0.00	A	2.33	-0.38	-0.01	A	0.01	0.05	0.00	A	4.68	-0.49	-0.01	A
8	27.11	-0.18	-0.02	A	0.40	0.02	0.00	A	0.99	-0.07	-0.01	A	0.35	-0.04	0.00	A	21.80	0.49	0.05	A	2.30	0.47	0.05	A	1.07	0.12	0.01	A
9	29.31	0.20	0.02	A	26.13	-0.20	-0.01	A	12.74	-0.27	-0.02	A	3.47	-0.13	-0.01	A	3.08	-0.22	-0.01	A	3.17	-0.57	-0.05	A	1.92	-0.18	-0.01	A
10	0.01	0.00	0.00	A	29.67	-0.23	-0.02	A	4.13	-0.17	-0.01	A	3.12	-0.13	-0.01	A	9.17	0.45	0.02	A	2.34	-0.60	-0.04	A	0.45	0.10	0.01	A
11	6.42	0.10	0.01	A	51.53	-0.28	-0.02	A	12.60	-0.28	-0.02	A	2.75	0.12	0.01	A	2.10	-0.18	-0.01	A	0.05	-0.07	-0.01	A	0.07	0.03	0.00	A
12	284.19	-0.88	-0.04	A	15.58	-0.20	-0.01	A	1.08	-0.10	-0.01	A	0.13	-0.03	0.00	A	0.49	-0.14	0.00	A	0.35	0.29	0.01	A	0.11	-0.06	0.00	A
13	14.51	-0.22	-0.01	A	21.93	-0.27	-0.01	A	7.35	-0.29	-0.01	A	8.51	0.28	0.01	A	0.15	-0.08	0.00	A	0.29	-0.27	-0.01	A	0.23	-0.10	0.00	A
14	41.61	0.24	0.02	A	110.15	-0.40	-0.03	A	3.03	-0.13	-0.01	A	2.51	-0.11	-0.01	A	8.33	-0.35	-0.02	A	0.98	-0.33	-0.03	A	1.27	0.15	0.01	A
15	420.14	-0.97	-0.05	A	268.51	-0.77	-0.05	A	2.28	0.14	0.01	A	10.82	-0.25	-0.02	A	0.55	0.13	0.00	A	0.07	0.12	0.01	A	2.87	0.29	0.01	A
16	0.45	0.03	0.00	A	49.29	0.30	0.02	A	0.75	-0.07	-0.01	A	56.20	-0.55	-0.04	A	5.12	-0.33	-0.02	A	1.97	0.57	0.03	A	12.07	-0.50	-0.03	A
17	35.07	-0.27	-0.02	A	5.84	-0.11	0.00	A	10.18	-0.29	-0.02	A	46.38	-0.52	-0.04	A	1.99	-0.23	-0.01	A	0.00	-0.01	0.00	A	3.33	-0.29	-0.02	A
18	66.29	0.38	0.02	A	62.71	0.37	0.02	A	4.38	-0.19	-0.01	A	139.20	-0.89	-0.07	A	16.36	-0.63	-0.03	A	0.00	-0.02	0.00	A	0.00	0.01	0.00	A
19	4.23	-0.09	-0.01	A	16.49	-0.18	-0.01	A	15.31	-0.34	-0.02	A	7.19	-0.20	-0.02	A	0.10	0.05	0.00	A	0.41	-0.23	-0.01	A	0.17	-0.06	0.00	A
20	0.00	0.00	0.00	A	6.40	-0.11	-0.01	A	0.32	-0.05	0.00	A	21.30	-0.34	-0.03	A	16.42	-0.60	-0.03	A	7.32	-1.05	-0.06	B<	0.05	-0.04	0.00	A
21	8.74	0.11	0.01	A	141.57	-0.43	-0.04	A	3.95	0.15	0.01	A	8.99	-0.20	-0.02	A	0.23	-0.05	0.00	A	3.78	-0.63	-0.06	A	0.30	-0.07	-0.01	A
22	259.80	0.62	0.05	A	1.53	-0.05	0.00	A	6.24	-0.20	-0.02	A	0.33	-0.04	0.00	A	1.43	0.16	0.01	A	0.46	0.24	0.02	A	0.00	0.00	0.00	A
23	113.14	0.37	0.03	A	4.46	0.07	0.01	A	20.74	0.33	0.03	A	25.98	0.34	0.03	A	0.66	0.09	0.01	A	2.75	0.52	0.05	A	1.52	-0.15	-0.01	A
24	271.95	0.60	0.05	A	14.76	0.14	0.01	A	34.43	-0.43	-0.04	A	6.53	0.17	0.02	A	11.65	-0.38	-0.03	A	1.13	0.36	0.03	A	4.25	0.27	0.02	A
25	260.52	1.04	0.03	B>	63.44	0.50	0.02	A	20.42	-0.52	-0.02	A	5.70	0.24	0.01	A	1.49	0.32	0.01	A	0.19	0.27	0.01	A	3.84	-0.45	-0.01	A
26	91.45	0.38	0.03	A	10.26	0.13	0.01	A	4.42	-0.17	-0.01	A	6.08	-0.18	-0.01	A	13.78	0.50	0.03	A	2.50	-0.55	-0.04	A	0.00	0.01	0.00	A
27	203.01	0.65	0.03	A	202.58	0.66	0.04	A	0.04	-0.02	0.00	A	15.63	0.31	0.02	A	22.72	0.85	0.03	A	0.12	0.14	0.01	A	0.61	-0.12	-0.01	A
28	8.11	-0.11	-0.01	A	93.09	0.37	0.03	A	0.21	0.04	0.00	A	7.37	0.19	0.02	A	5.34	0.28	0.02	A	1.85	-0.43	-0.04	A	1.49	-0.16	-0.01	A
29	5.59	0.08	0.01	A	18.68	-0.16	-0.01	A	0.21	-0.03	0.00	A	0.40	-0.04	0.00	A	8.61	0.34	0.03	A	0.26	0.17	0.01	A	0.05	0.03	0.00	A
30	348.30	0.79	0.05	A	3.96	0.08	0.01	A	7.35	0.23	0.02	A	0.01	0.01	0.00	A	4.53	0.33	0.02	A	1.56	0.49	0.03	A	2.12	-0.21	-0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.12 (continued)
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 6

	Reference: Male N= 41651 Focal: Female N= 40328				Reference: Hispanic N= 47036 Focal: Non Hispanic N= 35020				Reference: White N= 65927 Focal: Africa American N= 4866				Reference: White N= 65927 Focal: Native American N= 6088				Reference: White N= 65927 Focal: Asian N= 2352				Reference: White N= 65927 Focal: Hawaii N= 259				Reference: White N= 65927 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	171.38	0.47	0.04	A	4.36	-0.08	0.00	A	0.22	-0.04	0.00	A	11.34	-0.23	-0.02	A	0.11	-0.04	0.00	A	2.38	-0.47	-0.04	A	1.44	0.15	0.01	A
32	33.20	0.27	0.01	A	23.77	-0.23	-0.01	A	3.01	-0.16	-0.01	A	25.93	-0.40	-0.03	A	6.03	0.45	0.01	A	0.01	0.04	0.00	A	3.57	0.32	0.02	A
33	206.50	0.58	0.04	A	181.40	-0.54	-0.04	A	15.28	-0.32	-0.02	A	46.82	-0.48	-0.04	A	28.39	0.77	0.04	A	1.62	-0.47	-0.03	A	0.33	-0.08	-0.01	A
34	37.98	-0.23	-0.02	A	15.37	0.15	0.01	A	0.09	-0.02	0.00	A	30.53	0.39	0.03	A	7.50	0.29	0.03	A	4.15	-0.68	-0.06	A	0.06	-0.03	0.00	A
35	72.21	-0.35	-0.02	A	447.57	-0.86	-0.06	A	4.92	-0.18	-0.01	A	17.76	-0.30	-0.02	A	0.06	-0.03	0.00	A	0.06	0.10	0.01	A	5.44	0.34	0.02	A
36	23.67	-0.19	-0.01	A	102.03	-0.39	-0.03	A	7.16	0.21	0.02	A	28.35	-0.38	-0.03	A	10.36	-0.39	-0.03	A	2.01	-0.47	-0.04	A	1.09	0.14	0.01	A
37	88.44	-0.34	-0.03	A	5.92	-0.09	-0.01	A	0.62	0.06	0.01	A	30.16	-0.40	-0.03	A	1.30	-0.13	-0.01	A	0.24	-0.16	-0.01	A	0.00	0.00	0.00	A
38	303.35	0.69	0.05	A	20.24	-0.18	-0.01	A	7.81	0.23	0.02	A	10.84	-0.23	-0.02	A	0.27	-0.07	0.00	A	0.38	0.22	0.02	A	0.85	0.13	0.01	A
39	24.00	0.20	0.01	A	14.98	0.16	0.01	A	0.18	0.03	0.00	A	23.49	-0.35	-0.03	A	3.00	0.24	0.01	A	2.36	0.58	0.04	A	1.89	0.20	0.01	A
40	5.47	0.11	0.01	A	65.43	-0.39	-0.02	A	19.95	-0.41	-0.02	A	0.06	-0.02	0.00	A	9.10	-0.48	-0.02	A	2.64	-0.66	-0.03	A	1.46	0.20	0.01	A
41	31.41	0.20	0.02	A	98.93	-0.37	-0.03	A	4.26	-0.15	-0.01	A	0.03	-0.01	0.00	A	0.34	-0.07	-0.01	A	0.01	-0.03	0.00	A	0.00	0.00	0.00	A
42	81.77	0.36	0.02	A	0.32	0.02	0.00	A	1.15	0.09	0.01	A	4.73	0.15	0.01	A	1.91	0.18	0.01	A	0.97	0.35	0.03	A	0.36	0.08	0.01	A
43	3.21	0.07	0.01	A	13.33	-0.14	-0.01	A	3.79	-0.15	-0.01	A	2.00	0.10	0.01	A	1.93	0.17	0.01	A	0.51	-0.22	-0.02	A	1.59	0.16	0.01	A
44	370.25	0.73	0.06	A	69.00	0.33	0.03	A	3.54	0.15	0.01	A	0.02	0.01	0.00	A	4.08	-0.24	-0.02	A	2.52	0.57	0.04	A	0.82	-0.12	-0.01	A
45	33.90	0.30	0.01	A	23.04	-0.25	-0.01	A	17.29	0.44	0.02	A	33.13	0.51	0.03	A	13.10	0.76	0.02	A	0.41	0.32	0.01	A	2.39	0.29	0.01	A
46	103.88	-0.35	-0.03	A	41.30	0.23	0.02	A	2.17	-0.11	-0.01	A	1.07	-0.07	-0.01	A	0.14	-0.04	0.00	A	3.98	-0.59	-0.06	A	2.16	0.18	0.02	A
47	0.61	-0.03	0.00	A	25.67	-0.21	-0.02	A	7.25	0.22	0.02	A	4.68	0.16	0.01	A	19.20	-0.51	-0.04	A	0.24	-0.17	-0.01	A	0.12	0.05	0.00	A
48	123.93	0.47	0.03	A	70.32	0.36	0.03	A	16.38	0.35	0.03	A	26.27	0.39	0.03	A	4.48	0.30	0.02	A	0.06	-0.09	-0.01	A	0.13	-0.05	0.00	A
49	72.74	0.32	0.03	A	1.86	0.05	0.00	A	4.62	0.17	0.01	A	29.91	0.38	0.03	A	2.60	0.20	0.01	A	0.05	0.07	0.01	A	2.86	0.23	0.02	A
50	0.28	-0.02	0.00	A	102.17	0.39	0.04	A	0.47	-0.05	-0.01	A	90.46	-0.65	-0.06	A	4.47	-0.26	-0.02	A	1.14	-0.36	-0.03	A	3.86	-0.26	-0.02	A
51	311.26	-0.66	-0.06	A	14.39	-0.14	-0.01	A	4.57	-0.17	-0.01	A	6.45	0.18	0.02	A	3.82	0.22	0.02	A	0.04	-0.06	-0.01	A	0.07	-0.03	0.00	A
52	87.76	-0.35	-0.03	A	3.97	-0.08	0.00	A	23.98	-0.38	-0.03	A	10.87	0.23	0.02	A	2.06	0.18	0.01	A	3.40	0.62	0.05	A	0.06	0.03	0.00	A
53	19.55	-0.15	-0.02	A	23.95	0.18	0.02	A	10.63	-0.24	-0.02	A	1.99	0.09	0.01	A	13.80	0.39	0.04	A	0.16	-0.12	-0.01	A	0.07	0.03	0.00	A
54	56.20	0.44	0.01	A	5.78	-0.14	-0.01	A	9.53	-0.33	-0.01	A	0.09	0.03	0.00	A	5.67	0.57	0.01	A	0.67	0.46	0.01	A	0.29	0.11	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.13
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 7

	Reference: Male N= 41610 Focal: Female N= 39815				Reference: Hispanic N= 46879 Focal: Non Hispanic N= 34649				Reference: White N= 65514 Focal: Africa American N= 4646				Reference: White N= 65514 Focal: Native American N= 6091				Reference: White N= 65514 Focal: Asian N= 2313				Reference: White N= 65514 Focal: Hawaii N= 270				Reference: White N= 65514 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	17.43	0.25	0.01	A	87.00	-0.55	-0.02	A	2.31	0.18	0.01	A	28.74	-0.49	-0.03	A	12.96	-0.76	-0.02	A	0.01	0.06	0.00	A	4.90	0.49	0.01	A
2	23.40	0.18	0.01	A	27.32	0.20	0.02	A	10.54	-0.25	-0.02	A	1.61	-0.09	-0.01	A	27.38	-0.57	-0.05	A	2.84	-0.52	-0.05	A	0.06	0.03	0.00	A
3	13.45	0.22	0.01	A	10.60	-0.20	-0.01	A	0.30	0.07	0.00	A	24.49	-0.47	-0.02	A	12.09	-0.72	-0.02	A	1.20	-0.51	-0.02	A	0.01	0.02	0.00	A
4	2.77	0.07	0.00	A	0.42	0.03	0.00	A	20.50	-0.38	-0.03	A	0.07	-0.02	0.00	A	5.85	-0.33	-0.02	A	1.38	0.44	0.03	A	0.37	0.09	0.01	A
5	0.28	-0.03	0.00	A	21.53	-0.22	-0.01	A	0.71	-0.08	0.00	A	5.93	-0.20	-0.01	A	5.38	-0.39	-0.01	A	2.20	-0.56	-0.03	A	6.71	0.45	0.02	A
6	134.22	-0.46	-0.03	A	30.23	-0.22	-0.02	A	11.09	-0.27	-0.02	A	87.07	-0.64	-0.06	A	29.67	-0.65	-0.05	A	6.99	-0.81	-0.07	A	3.70	0.27	0.02	A
7	18.08	-0.20	-0.01	A	39.66	0.29	0.02	A	1.71	0.12	0.01	A	6.55	0.21	0.01	A	9.76	0.55	0.02	A	0.15	0.15	0.01	A	0.05	-0.04	0.00	A
8	27.44	0.19	0.02	A	56.16	-0.27	-0.02	A	6.00	-0.19	-0.02	A	12.75	-0.25	-0.02	A	14.96	0.42	0.04	A	0.45	0.20	0.02	A	0.76	-0.11	-0.01	A
9	1.66	0.07	0.00	A	1.06	-0.06	0.00	A	10.48	-0.34	-0.02	A	47.12	-0.58	-0.03	A	14.88	-0.77	-0.02	A	0.01	-0.06	0.00	A	0.27	0.10	0.00	A
10	0.03	0.01	0.00	A	4.86	0.09	0.01	A	8.72	-0.25	-0.02	A	7.50	0.20	0.02	A	1.42	0.17	0.01	A	0.02	-0.05	0.00	A	1.25	-0.16	-0.01	A
11	14.15	-0.15	-0.01	A	18.53	0.17	0.01	A	3.57	-0.16	-0.01	A	0.74	0.06	0.00	A	11.50	0.43	0.03	A	1.48	0.41	0.03	A	4.23	0.28	0.02	A
12	632.33	-1.01	-0.07	B<	87.79	-0.38	-0.03	A	0.00	0.00	0.00	A	0.34	0.04	0.00	A	11.66	0.48	0.03	A	0.59	-0.26	-0.02	A	2.07	0.20	0.01	A
13	192.59	-0.64	-0.03	A	52.24	-0.33	-0.02	A	18.87	-0.39	-0.03	A	0.49	0.05	0.00	A	14.04	0.67	0.02	A	1.09	0.41	0.02	A	2.04	0.23	0.01	A
14	0.07	-0.01	0.00	A	2.15	-0.05	-0.01	A	8.65	0.22	0.02	A	1.25	0.08	0.01	A	5.18	-0.24	-0.02	A	1.02	0.30	0.03	A	0.42	-0.08	-0.01	A
15	624.76	-0.97	-0.08	A	1.02	0.04	0.00	A	4.13	0.16	0.01	A	3.07	0.12	0.01	A	6.68	0.34	0.02	A	0.22	0.15	0.01	A	0.75	0.12	0.01	A
16	14.81	-0.15	-0.01	A	2.00	0.06	0.00	A	3.44	-0.15	-0.01	A	3.00	-0.12	-0.01	A	2.15	0.20	0.01	A	0.03	0.06	0.00	A	2.03	-0.19	-0.01	A
17	126.98	0.40	0.04	A	10.03	0.11	0.01	A	14.41	-0.28	-0.03	A	38.47	-0.41	-0.04	A	11.43	-0.36	-0.03	A	1.18	-0.32	-0.03	A	5.12	-0.27	-0.03	A
18	34.89	0.20	0.02	A	3.38	0.06	0.01	A	3.38	-0.13	-0.01	A	1.09	-0.07	-0.01	A	15.96	0.43	0.04	A	2.86	0.49	0.05	A	0.01	0.01	0.00	A
19	0.22	0.02	0.00	A	53.81	-0.29	-0.02	A	6.46	-0.21	-0.02	A	43.14	-0.46	-0.04	A	6.14	-0.32	-0.02	A	3.39	-0.58	-0.05	A	0.97	-0.13	-0.01	A
20	2.94	0.08	0.00	A	230.79	-0.70	-0.04	A	11.40	0.33	0.02	A	0.07	0.02	0.00	A	0.13	-0.06	0.00	A	0.21	0.18	0.01	A	0.05	0.04	0.00	A
21	104.72	-0.36	-0.04	A	6.74	0.09	0.01	A	0.42	0.05	0.00	A	6.37	0.17	0.02	A	10.01	0.34	0.03	A	1.84	0.41	0.04	A	3.78	0.23	0.02	A
22	91.20	0.46	0.02	A	93.52	0.47	0.03	A	1.75	0.13	0.01	A	4.73	-0.17	-0.01	A	13.16	0.69	0.02	A	0.89	0.39	0.02	A	0.63	-0.13	-0.01	A
23	32.64	0.25	0.01	A	163.66	0.57	0.04	A	0.03	-0.01	0.00	A	10.18	0.25	0.02	A	3.71	-0.28	-0.01	A	1.62	0.50	0.03	A	0.63	-0.12	-0.01	A
24	5.58	-0.09	-0.01	A	100.71	-0.39	-0.03	A	4.93	0.18	0.02	A	91.58	-0.65	-0.06	A	6.14	-0.31	-0.02	A	1.95	-0.46	-0.04	A	0.88	-0.13	-0.01	A
25	191.87	-0.50	-0.05	A	34.01	-0.22	-0.02	A	1.08	-0.08	-0.01	A	6.44	-0.18	-0.02	A	0.08	0.03	0.00	A	1.08	0.31	0.03	A	1.18	0.13	0.01	A
26	587.60	1.22	0.05	B>	8.23	0.14	0.01	A	5.44	-0.23	-0.01	A	5.24	0.19	0.01	A	0.00	0.00	0.00	A	0.46	0.30	0.01	A	0.13	-0.06	0.00	A
27	34.89	0.27	0.01	A	2.87	0.08	0.01	A	0.00	0.00	0.00	A	1.24	-0.09	-0.01	A	5.29	0.39	0.02	A	0.24	0.20	0.01	A	0.07	0.04	0.00	A
28	163.93	0.54	0.03	A	9.98	0.13	0.01	A	0.11	-0.03	0.00	A	4.05	0.15	0.01	A	3.20	0.26	0.01	A	2.31	0.53	0.04	A	0.37	-0.09	-0.01	A
29	183.27	0.57	0.03	A	14.63	0.16	0.01	A	0.96	0.08	0.01	A	0.11	-0.02	0.00	A	10.01	0.49	0.02	A	0.77	-0.34	-0.02	A	0.05	0.03	0.00	A
30	11.55	-0.14	-0.01	A	2.06	-0.06	0.00	A	0.25	-0.04	0.00	A	29.90	-0.40	-0.03	A	1.46	0.16	0.01	A	5.16	-0.80	-0.06	A	0.00	-0.01	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.13 (continued)
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 7

	Reference: Male N= 41610 Focal: Female N= 39815				Reference: Hispanic N= 46879 Focal: Non Hispanic N= 34649				Reference: White N= 65514 Focal: Africa American N= 4646				Reference: White N= 65514 Focal: Native American N= 6091				Reference: White N= 65514 Focal: Asian N= 2313				Reference: White N= 65514 Focal: Hawaii N= 270				Reference: White N= 65514 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	35.45	-0.23	-0.02	A	10.24	-0.12	-0.01	A	0.49	0.06	0.00	A	0.07	-0.02	0.00	A	3.11	0.22	0.02	A	0.38	0.21	0.02	A	4.32	-0.27	-0.02	A
32	0.03	0.01	0.00	A	569.43	-0.93	-0.07	A	1.09	-0.09	-0.01	A	7.07	-0.19	-0.02	A	0.27	0.07	0.00	A	2.01	0.49	0.04	A	0.03	0.02	0.00	A
33	19.28	0.18	0.01	A	1.29	0.05	0.00	A	14.73	-0.32	-0.02	A	4.71	0.16	0.01	A	6.89	0.39	0.02	A	0.22	0.17	0.01	A	0.56	-0.11	-0.01	A
34	56.16	-0.27	-0.02	A	73.37	-0.32	-0.03	A	0.03	-0.01	0.00	A	2.74	-0.11	-0.01	A	11.39	0.39	0.03	A	0.16	0.13	0.01	A	0.00	-0.01	0.00	A
35	59.58	0.30	0.02	A	243.04	-0.62	-0.05	A	7.77	0.23	0.02	A	58.02	-0.56	-0.04	A	2.37	-0.20	-0.01	A	0.31	0.18	0.01	A	5.85	0.33	0.02	A
36	166.56	0.45	0.04	A	116.33	0.39	0.04	A	0.14	-0.03	0.00	A	5.39	0.15	0.01	A	0.11	-0.04	0.00	A	0.69	-0.24	-0.02	A	0.07	0.03	0.00	A
37	2.10	0.05	0.01	A	38.78	-0.23	-0.02	A	0.51	-0.05	0.00	A	9.10	-0.21	-0.02	A	30.02	-0.58	-0.05	A	0.03	-0.05	0.00	A	4.29	0.25	0.02	A
38	24.43	0.20	0.02	A	1.41	-0.05	0.00	A	0.59	0.07	0.00	A	0.40	-0.05	0.00	A	8.74	0.33	0.03	A	0.08	-0.09	-0.01	A	0.13	0.05	0.00	A
39	352.84	0.70	0.06	A	5.18	-0.09	0.00	A	2.50	-0.12	-0.01	A	0.58	0.05	0.01	A	0.04	0.02	0.00	A	0.89	-0.30	-0.03	A	1.38	0.15	0.01	A
40	19.45	0.15	0.01	A	214.63	-0.52	-0.05	A	27.55	-0.39	-0.04	A	7.30	-0.18	-0.02	A	4.99	-0.23	-0.02	A	0.22	-0.14	-0.01	A	3.28	0.22	0.02	A
41	91.04	0.41	0.02	A	1.05	0.04	0.00	A	0.49	-0.06	0.00	A	5.93	-0.18	-0.01	A	7.70	0.43	0.02	A	4.61	-0.75	-0.05	A	2.82	-0.25	-0.02	A
42	332.57	0.82	0.05	A	3.77	0.09	0.01	A	5.19	-0.20	-0.01	A	2.55	0.13	0.01	A	0.11	0.05	0.00	A	0.37	0.24	0.01	A	2.41	0.25	0.01	A
43	85.15	0.37	0.03	A	0.86	0.04	0.00	A	2.36	-0.13	-0.01	A	0.93	-0.07	-0.01	A	16.74	-0.52	-0.03	A	2.37	-0.51	-0.04	A	1.57	-0.17	-0.01	A
44	9.85	0.13	0.01	A	225.14	0.62	0.05	A	0.11	0.03	0.00	A	36.42	0.44	0.04	A	1.17	0.15	0.01	A	0.07	-0.09	-0.01	A	1.90	-0.19	-0.01	A
45	132.98	0.49	0.03	A	0.75	0.04	0.00	A	14.52	-0.32	-0.02	A	1.43	-0.09	-0.01	A	6.57	0.40	0.02	A	0.10	-0.11	-0.01	A	0.17	0.06	0.00	A
46	2.77	0.06	0.01	A	17.82	0.16	0.01	A	46.78	0.55	0.05	A	8.40	-0.20	-0.02	A	24.96	0.61	0.04	A	0.27	0.17	0.01	A	0.03	-0.02	0.00	A
47	124.02	0.41	0.04	A	9.62	0.12	0.01	A	3.05	0.14	0.01	A	0.58	-0.05	-0.01	A	0.82	0.11	0.01	A	0.74	-0.27	-0.02	A	0.19	-0.05	0.00	A
48	43.76	0.36	0.01	A	50.51	-0.38	-0.02	A	0.67	-0.09	0.00	A	0.89	0.08	0.00	A	0.05	0.05	0.00	A	0.56	0.37	0.01	A	0.97	0.19	0.01	A
49	0.00	0.00	0.00	A	17.80	0.18	0.01	A	30.70	0.48	0.04	A	0.65	-0.06	-0.01	A	2.76	0.25	0.01	A	0.02	0.04	0.00	A	2.88	0.25	0.02	A
50	16.28	0.17	0.01	A	12.52	-0.15	-0.01	A	1.18	-0.09	-0.01	A	5.49	-0.17	-0.01	A	3.17	0.26	0.01	A	1.43	-0.40	-0.03	A	0.92	0.14	0.01	A
51	285.08	0.86	0.03	A	9.35	0.15	0.01	A	3.66	-0.19	-0.01	A	12.29	-0.29	-0.02	A	4.04	-0.35	-0.01	A	0.21	0.20	0.01	A	0.06	0.04	0.00	A
52	63.36	-0.31	-0.02	A	75.88	-0.34	-0.03	A	17.52	-0.34	-0.03	A	0.35	-0.04	0.00	A	3.78	0.26	0.02	A	0.00	-0.01	0.00	A	4.36	0.29	0.02	A
53	71.89	0.45	0.02	A	46.35	-0.35	-0.02	A	0.25	-0.05	0.00	A	8.64	-0.24	-0.01	A	3.00	-0.33	-0.01	A	0.03	0.07	0.00	A	1.45	0.23	0.01	A
54	12.40	0.13	0.01	A	4.49	-0.08	-0.01	A	0.00	0.01	0.00	A	0.05	-0.02	0.00	A	0.07	-0.03	0.00	A	2.05	0.45	0.04	A	0.03	0.02	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.14
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 8

	Reference: Male N= 40626 Focal: Female N= 39223				Reference: Hispanic N= 46356 Focal: Non Hispanic N= 33604				Reference: White N= 64142 Focal: Africa American N= 4909				Reference: White N= 64142 Focal: Native American N= 5745				Reference: White N= 64142 Focal: Asian N= 2271				Reference: White N= 64142 Focal: Hawaii N= 258				Reference: White N= 64142 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	973.00	-1.12	-0.11	B<	7.24	-0.10	-0.01	A	105.17	-0.74	-0.07	A	142.68	-0.82	-0.08	A	54.50	-0.80	-0.07	A	0.34	-0.18	-0.02	A	0.88	-0.11	-0.01	A
2	134.27	0.49	0.03	A	11.84	0.15	0.01	A	0.37	0.05	0.00	A	5.82	0.18	0.01	A	2.78	0.25	0.01	A	1.25	-0.39	-0.03	A	0.17	0.06	0.00	A
3	0.30	0.03	0.00	A	9.05	0.15	0.01	A	3.54	0.18	0.01	A	5.02	0.19	0.01	A	0.79	0.15	0.01	A	0.52	0.32	0.02	A	1.73	-0.21	-0.01	A
4	24.55	0.25	0.01	A	5.21	0.11	0.01	A	3.89	-0.19	-0.01	A	22.50	-0.40	-0.02	A	28.78	-0.83	-0.03	A	3.19	-0.73	-0.04	A	5.42	0.42	0.02	A
5	103.18	0.66	0.02	A	52.85	0.47	0.02	A	1.81	-0.17	-0.01	A	6.34	-0.27	-0.01	A	51.81	-1.28	-0.04	B<	2.86	-0.84	-0.03	A	0.00	0.00	0.00	A
6	38.71	-0.22	-0.02	A	104.08	-0.36	-0.03	A	4.05	-0.15	-0.01	A	0.16	0.03	0.00	A	0.01	0.01	0.00	A	1.64	0.38	0.04	A	0.53	-0.09	-0.01	A
7	1843.69	-1.73	-0.13	C<	1642.88	-1.60	-0.13	C<	17.21	-0.33	-0.03	A	143.26	-0.93	-0.07	A	20.48	0.58	0.04	A	1.19	-0.36	-0.03	A	0.06	0.03	0.00	A
8	24.61	0.27	0.01	A	4.07	-0.11	-0.01	A	3.14	-0.18	-0.01	A	4.11	-0.19	-0.01	A	2.32	-0.29	-0.01	A	3.84	-0.83	-0.04	A	0.30	-0.10	0.00	A
9	13.17	0.15	0.01	A	2.22	-0.06	0.00	A	0.31	-0.05	0.00	A	14.68	-0.28	-0.02	A	1.36	-0.16	-0.01	A	5.27	-0.77	-0.06	A	0.06	0.03	0.00	A
10	0.00	0.00	0.00	A	6.35	0.10	0.01	A	9.70	0.25	0.02	A	5.72	0.17	0.02	A	3.39	0.24	0.02	A	2.11	0.49	0.04	A	0.15	0.05	0.00	A
11	140.57	0.52	0.03	A	238.19	0.69	0.05	A	42.56	-0.54	-0.04	A	0.66	0.06	0.00	A	0.00	0.01	0.00	A	0.00	0.00	0.00	A	1.79	-0.20	-0.01	A
12	167.43	0.46	0.05	A	20.19	-0.16	-0.01	A	12.08	0.25	0.02	A	3.14	-0.12	-0.01	A	2.12	-0.15	-0.01	A	0.21	-0.14	-0.01	A	1.35	-0.14	-0.01	A
13	105.46	0.44	0.03	A	5.34	-0.10	0.00	A	2.01	0.12	0.01	A	0.00	0.01	0.00	A	8.12	0.42	0.02	A	1.67	0.49	0.03	A	2.36	0.23	0.01	A
14	173.74	0.81	0.02	A	14.76	-0.23	-0.01	A	0.13	0.04	0.00	A	0.48	0.07	0.00	A	0.89	-0.20	0.00	A	3.21	1.07	0.03	A	2.20	0.31	0.01	A
15	80.39	0.34	0.03	A	13.88	-0.14	-0.01	A	0.44	0.05	0.00	A	0.55	0.05	0.01	A	1.79	0.17	0.01	A	0.00	-0.02	0.00	A	0.73	-0.11	-0.01	A
16	317.94	0.72	0.05	A	34.71	0.24	0.02	A	0.08	-0.02	0.00	A	23.09	0.35	0.03	A	7.44	0.39	0.02	A	1.25	0.40	0.03	A	0.49	0.10	0.01	A
17	163.99	0.49	0.04	A	0.04	-0.01	0.00	A	14.47	0.30	0.03	A	2.57	0.11	0.01	A	24.88	0.66	0.04	A	0.00	0.00	0.00	A	0.79	0.12	0.01	A
18	116.00	0.42	0.03	A	23.97	-0.19	-0.01	A	1.95	-0.11	-0.01	A	0.65	0.06	0.01	A	23.16	0.66	0.04	A	1.31	-0.36	-0.03	A	2.10	-0.19	-0.02	A
19	18.25	-0.18	-0.01	A	12.14	0.15	0.01	A	14.83	-0.32	-0.02	A	6.39	-0.19	-0.02	A	4.91	0.33	0.02	A	1.61	-0.45	-0.03	A	0.06	-0.04	0.00	A
20	107.62	0.40	0.03	A	150.63	-0.48	-0.04	A	0.74	0.07	0.01	A	47.23	-0.48	-0.04	A	3.16	-0.22	-0.02	A	0.99	0.35	0.03	A	0.65	0.11	0.01	A
21	380.47	-0.96	-0.05	A	103.98	-0.49	-0.03	A	0.09	0.03	0.00	A	58.58	-0.61	-0.04	A	8.31	-0.50	-0.02	A	0.16	-0.17	-0.01	A	0.11	0.05	0.00	A
22	7.75	0.10	0.01	A	134.77	0.45	0.04	A	44.32	0.53	0.05	A	0.32	-0.04	0.00	A	6.21	0.30	0.02	A	0.01	-0.04	0.00	A	0.20	-0.06	0.00	A
23	65.42	0.43	0.02	A	1.02	0.05	0.00	A	0.57	-0.08	0.00	A	0.39	0.06	0.00	A	14.54	-0.63	-0.02	A	3.19	-0.77	-0.04	A	0.16	0.07	0.00	A
24	288.78	0.58	0.06	A	76.23	0.31	0.03	A	4.27	0.15	0.01	A	1.01	0.07	0.01	A	14.25	-0.39	-0.04	A	4.55	0.64	0.07	A	0.07	-0.03	0.00	A
25	80.21	0.33	0.03	A	144.76	-0.45	-0.04	A	16.05	-0.30	-0.03	A	47.43	-0.47	-0.04	A	4.07	-0.23	-0.02	A	4.73	-0.69	-0.06	A	0.03	0.02	0.00	A
26	281.33	0.65	0.05	A	0.22	-0.02	0.00	A	16.92	0.33	0.03	A	1.28	-0.08	-0.01	A	0.31	0.07	0.01	A	0.06	-0.09	-0.01	A	1.30	0.15	0.01	A
27	0.07	-0.01	0.00	A	85.05	-0.38	-0.03	A	0.41	-0.05	0.00	A	86.00	-0.66	-0.06	A	0.88	-0.13	-0.01	A	0.35	-0.21	-0.02	A	4.06	0.29	0.02	A
28	32.95	0.21	0.02	A	155.58	0.46	0.04	A	5.84	-0.18	-0.02	A	10.68	0.22	0.02	A	8.68	0.34	0.03	A	0.14	0.12	0.01	A	0.03	-0.02	0.00	A
29	106.15	0.40	0.03	A	0.05	-0.01	0.00	A	9.49	-0.24	-0.02	A	76.34	0.64	0.06	A	5.87	-0.30	-0.02	A	0.04	-0.07	-0.01	A	8.38	-0.38	-0.03	A
30	12.79	0.13	0.01	A	66.77	0.30	0.03	A	0.03	-0.01	0.00	A	33.28	-0.40	-0.04	A	0.93	-0.11	-0.01	A	0.98	-0.31	-0.03	A	1.23	-0.13	-0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.14 (continued)
Spring 2012 AIMS Differential Item Functioning Reading CRT Grade 8

	Reference: Male N= 40626 Focal: Female N= 39223				Reference: Hispanic N= 46356 Focal: Non Hispanic N= 33604				Reference: White N= 64142 Focal: Africa American N= 4909				Reference: White N= 64142 Focal: Native American N= 5745				Reference: White N= 64142 Focal: Asian N= 2271				Reference: White N= 64142 Focal: Hawaii N= 258				Reference: White N= 64142 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	97.44	0.34	0.04	A	4.80	0.08	0.01	A	28.54	0.38	0.04	A	4.60	0.15	0.01	A	1.17	0.11	0.01	A	0.00	0.00	0.00	A	1.07	-0.12	-0.01	A
32	230.97	0.93	0.03	A	10.48	0.19	0.01	A	0.16	-0.04	0.00	A	8.15	0.29	0.01	A	2.62	0.37	0.01	A	0.00	0.00	0.00	A	0.01	-0.02	0.00	A
33	20.30	0.21	0.01	A	34.06	-0.28	-0.02	A	3.55	0.18	0.01	A	145.14	-0.94	-0.07	A	10.01	-0.52	-0.02	A	0.00	-0.01	0.00	A	0.58	0.12	0.01	A
34	66.56	0.37	0.02	A	16.23	-0.18	-0.01	A	3.25	0.16	0.01	A	1.08	-0.08	-0.01	A	0.94	-0.15	-0.01	A	0.95	-0.39	-0.02	A	3.23	0.29	0.02	A
35	516.89	0.99	0.06	A	55.35	0.33	0.02	A	0.01	0.01	0.00	A	5.59	-0.18	-0.01	A	8.86	-0.41	-0.02	A	7.96	-0.99	-0.07	A	3.61	-0.27	-0.02	A
36	43.70	0.27	0.02	A	17.13	-0.17	-0.01	A	0.00	0.00	0.00	A	1.04	-0.07	-0.01	A	2.65	0.22	0.01	A	0.20	0.16	0.01	A	0.40	-0.09	-0.01	A
37	46.55	0.26	0.02	A	55.85	0.29	0.02	A	0.11	-0.03	0.00	A	2.84	-0.12	-0.01	A	11.39	0.41	0.03	A	4.14	-0.66	-0.06	A	0.03	0.02	0.00	A
38	233.76	0.91	0.03	A	18.06	-0.25	-0.01	A	0.17	0.05	0.00	A	2.80	0.16	0.01	A	0.99	-0.22	0.00	A	0.92	-0.48	-0.02	A	1.46	0.25	0.01	A
39	165.67	-0.61	-0.03	A	29.82	-0.26	-0.02	A	0.21	-0.04	0.00	A	0.55	-0.06	0.00	A	3.00	0.30	0.01	A	0.42	0.28	0.01	A	1.11	0.17	0.01	A
40	1.55	-0.05	0.00	A	0.85	0.03	0.01	A	16.88	-0.32	-0.03	A	0.06	0.02	0.00	A	0.00	0.00	0.00	A	0.02	-0.04	0.00	A	5.88	-0.30	-0.03	A
41	0.34	-0.02	0.00	A	8.58	0.11	0.01	A	1.72	-0.10	-0.01	A	3.61	0.13	0.01	A	2.52	0.17	0.02	A	0.81	0.27	0.03	A	7.00	-0.33	-0.03	A
42	20.03	0.19	0.01	A	13.27	0.16	0.01	A	7.82	-0.23	-0.02	A	0.25	0.04	0.00	A	0.17	0.06	0.00	A	1.35	-0.42	-0.03	A	0.06	-0.04	0.00	A
43	20.58	-0.17	-0.01	A	13.53	-0.14	-0.01	A	0.76	-0.07	-0.01	A	26.66	-0.36	-0.03	A	3.79	-0.22	-0.02	A	1.07	0.36	0.03	A	0.22	0.06	0.01	A
44	0.00	0.00	0.00	A	0.72	-0.04	0.00	A	2.51	-0.13	-0.01	A	11.37	-0.25	-0.02	A	5.60	-0.33	-0.02	A	2.13	-0.54	-0.04	A	1.83	-0.19	-0.01	A
45	57.00	0.29	0.02	A	3.10	0.07	0.01	A	0.10	-0.02	0.00	A	4.73	-0.15	-0.01	A	16.39	0.52	0.04	A	0.43	0.22	0.02	A	0.21	-0.06	-0.01	A
46	94.88	0.45	0.02	A	45.75	-0.31	-0.02	A	20.13	-0.40	-0.03	A	9.44	-0.24	-0.02	A	2.40	0.26	0.01	A	0.25	0.20	0.01	A	0.25	-0.08	0.00	A
47	0.22	-0.02	0.00	A	27.29	-0.21	-0.01	A	71.07	-0.66	-0.05	A	7.27	0.20	0.02	A	14.22	0.55	0.03	A	0.30	0.19	0.01	A	2.16	-0.20	-0.01	A
48	142.42	0.66	0.02	A	14.82	0.21	0.01	A	5.30	0.25	0.01	A	2.05	0.13	0.01	A	1.25	0.23	0.01	A	0.02	0.06	0.00	A	0.10	0.06	0.00	A
49	209.88	-0.60	-0.04	A	316.19	-0.73	-0.05	A	34.49	-0.47	-0.04	A	44.31	-0.48	-0.04	A	0.39	0.09	0.00	A	0.47	-0.26	-0.02	A	0.42	0.09	0.01	A
50	766.95	-1.04	-0.09	B<	0.54	0.03	0.00	A	5.03	-0.17	-0.02	A	2.63	0.12	0.01	A	0.00	-0.01	0.00	A	0.38	-0.19	-0.02	A	0.49	0.09	0.01	A
51	4.88	-0.11	-0.01	A	37.38	-0.30	-0.02	A	18.64	-0.40	-0.02	A	18.93	-0.35	-0.02	A	0.78	-0.16	-0.01	A	0.21	-0.19	-0.01	A	0.37	-0.10	-0.01	A
52	0.66	-0.03	0.00	A	1.49	-0.05	0.00	A	1.55	-0.11	-0.01	A	11.70	0.26	0.02	A	1.29	0.17	0.01	A	0.23	-0.18	-0.01	A	2.95	-0.25	-0.02	A
53	35.32	-0.23	-0.02	A	5.77	-0.09	-0.01	A	9.85	-0.24	-0.02	A	0.19	0.03	0.00	A	23.27	0.66	0.04	A	1.72	-0.45	-0.04	A	1.54	-0.16	-0.01	A
54	12.91	0.14	0.01	A	20.41	0.18	0.01	A	0.01	-0.01	0.00	A	7.04	0.19	0.02	A	0.68	0.10	0.01	A	2.63	-0.53	-0.04	A	2.68	0.22	0.02	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.15
Spring 2012 AIMS Differential Item Functioning Reading CRT High School

	Reference: Male N= 38802 Focal: Female N= 38343				Reference: Hispanic N= 46251 Focal: Non Hispanic N= 31025				Reference: White N= 62485 Focal: Africa American N= 4607				Reference: White N= 62485 Focal: Native American N= 4593				Reference: White N= 62485 Focal: Asian N= 2348				Reference: White N= 62485 Focal: Hawaii N= 227				Reference: White N= 62485 Focal: Multiple Indicator N= 14			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	4.17	-0.08	-0.01	A	1.20	-0.04	0.00	A	1.00	0.08	0.01	A	0.02	0.01	0.00	A	2.73	0.19	0.02	A	1.02	-0.34	-0.03	A	3.45	-0.25	-0.02	A
2	9.66	-0.13	-0.01	A	33.93	0.25	0.02	A	13.77	0.33	0.02	A	0.76	0.07	0.01	A	3.50	0.26	0.01	A	0.10	0.12	0.01	A	0.75	0.14	0.01	A
3	218.02	0.77	0.03	A	0.85	0.05	0.00	A	21.50	-0.46	-0.03	A	61.77	-0.74	-0.05	A	53.37	-1.09	-0.05	B<	4.90	-0.93	-0.05	A	0.40	-0.12	-0.01	A
4	11.07	-0.20	-0.01	A	38.06	0.36	0.02	A	53.44	-0.78	-0.04	A	9.25	-0.31	-0.02	A	35.17	-1.06	-0.03	B<	1.05	-0.49	-0.02	A	0.87	-0.20	-0.01	A
5	124.66	0.49	0.03	A	173.59	-0.59	-0.04	A	4.98	-0.20	-0.01	A	69.25	-0.69	-0.06	A	120.66	-1.36	-0.08	B<	6.88	-0.88	-0.07	A	0.04	0.03	0.00	A
6	0.19	0.03	0.00	A	0.00	0.00	0.00	A	12.98	-0.51	-0.01	A	11.93	-0.46	-0.01	A	109.65	-2.23	-0.04	C<	1.53	-0.79	-0.02	A	0.20	0.14	0.00	A
7	120.44	-0.42	-0.03	A	14.07	0.15	0.01	A	15.19	-0.30	-0.03	A	1.12	-0.08	-0.01	A	0.38	0.07	0.01	A	2.68	-0.54	-0.05	A	3.25	-0.25	-0.02	A
8	1.64	-0.06	0.00	A	0.13	-0.02	0.00	A	23.61	-0.46	-0.03	A	59.25	-0.69	-0.05	A	18.19	-0.65	-0.03	A	2.60	-0.66	-0.04	A	0.81	-0.16	-0.01	A
9	260.85	-0.63	-0.05	A	532.63	-0.92	-0.07	A	20.21	-0.36	-0.03	A	64.85	-0.69	-0.05	A	0.00	0.00	0.00	A	0.09	-0.11	-0.01	A	0.19	-0.06	-0.01	A
10	156.65	0.72	0.02	A	3.87	0.11	0.01	A	8.21	-0.31	-0.01	A	3.27	-0.18	-0.01	A	3.98	0.40	0.01	A	0.75	0.46	0.02	A	0.00	0.01	0.00	A
11	1.39	0.04	0.00	A	12.51	0.14	0.01	A	4.17	0.16	0.01	A	3.08	-0.14	-0.01	A	0.03	0.02	0.00	A	0.17	-0.14	-0.01	A	0.18	-0.06	-0.01	A
12	192.61	-0.51	-0.05	A	359.56	-0.71	-0.06	A	4.29	-0.16	-0.01	A	38.52	-0.48	-0.04	A	5.73	-0.26	-0.02	A	2.87	-0.55	-0.05	A	1.83	-0.18	-0.02	A
13	430.67	-0.81	-0.07	A	356.57	-0.74	-0.06	A	4.26	0.17	0.01	A	41.99	-0.54	-0.05	A	14.85	0.46	0.03	A	0.42	0.23	0.02	A	0.34	0.08	0.01	A
14	316.45	0.62	0.06	A	341.63	0.67	0.07	A	0.51	-0.05	-0.01	A	102.11	0.74	0.08	A	2.56	0.16	0.02	A	0.77	0.28	0.03	A	2.36	0.19	0.02	A
15	488.40	0.92	0.06	A	15.43	0.17	0.01	A	0.36	0.05	0.00	A	28.24	0.44	0.04	A	0.54	0.10	0.01	A	8.38	1.17	0.08	B>	1.08	0.16	0.01	A
16	267.62	0.72	0.04	A	6.87	-0.12	-0.01	A	2.09	0.13	0.01	A	4.81	-0.18	-0.01	A	6.96	0.38	0.02	A	0.40	-0.24	-0.02	A	0.00	-0.01	0.00	A
17	25.51	-0.18	-0.02	A	5.15	0.09	0.01	A	0.08	0.02	0.00	A	33.33	0.45	0.04	A	32.02	0.58	0.06	A	0.12	-0.12	-0.01	A	1.92	0.18	0.02	A
18	415.39	1.25	0.04	B>	26.42	0.31	0.01	A	1.06	-0.12	-0.01	A	0.08	-0.03	0.00	A	17.13	-0.80	-0.02	A	0.23	-0.26	-0.01	A	0.26	0.11	0.00	A
19	470.18	0.78	0.08	A	1.77	-0.05	0.00	A	10.97	0.25	0.02	A	29.70	0.42	0.04	A	3.58	0.20	0.02	A	3.95	0.67	0.06	A	9.96	0.41	0.04	A
20	70.52	-0.48	-0.02	A	6.43	-0.15	-0.01	A	46.75	-0.71	-0.03	A	2.75	-0.17	-0.01	A	1.52	0.25	0.01	A	0.18	0.22	0.01	A	0.06	0.05	0.00	A
21	520.24	-0.86	-0.08	A	3.70	0.07	0.00	A	1.82	-0.10	-0.01	A	2.91	0.13	0.01	A	0.36	0.07	0.01	A	0.37	-0.20	-0.02	A	5.04	-0.30	-0.03	A
22	271.17	-0.67	-0.05	A	12.32	-0.14	-0.01	A	19.90	-0.37	-0.03	A	7.29	-0.22	-0.02	A	26.68	0.68	0.04	A	3.42	-0.67	-0.05	A	3.85	-0.29	-0.02	A
23	19.47	-0.20	-0.01	A	6.83	-0.12	-0.01	A	0.92	-0.09	-0.01	A	41.80	-0.55	-0.04	A	0.10	0.05	0.00	A	1.61	-0.50	-0.03	A	5.99	0.41	0.02	A
24	33.33	0.37	0.01	A	6.75	0.17	0.01	A	6.57	-0.30	-0.01	A	8.90	-0.32	-0.02	A	0.21	0.10	0.00	A	3.06	-0.91	-0.03	A	0.03	0.04	0.00	A
25	0.75	0.06	0.00	A	2.28	0.11	0.00	A	20.55	-0.59	-0.02	A	0.17	-0.05	0.00	A	8.77	-0.71	-0.01	A	0.77	0.62	0.01	A	0.34	0.16	0.00	A
26	2.62	-0.06	-0.01	A	38.27	0.25	0.02	A	20.00	-0.35	-0.03	A	4.05	0.16	0.01	A	0.44	0.08	0.01	A	2.55	0.57	0.05	A	0.23	-0.07	-0.01	A
27	273.10	-0.68	-0.05	A	24.48	-0.20	-0.01	A	14.66	-0.32	-0.03	A	1.07	-0.08	-0.01	A	0.20	-0.06	0.00	A	1.98	0.50	0.04	A	0.33	-0.09	-0.01	A
28	606.55	-0.94	-0.08	A	13.26	0.14	0.01	A	0.09	0.02	0.00	A	17.36	0.33	0.03	A	65.03	0.98	0.07	A	1.23	0.37	0.03	A	0.00	0.00	0.00	A
29	6.60	0.10	0.01	A	11.23	0.14	0.01	A	9.20	-0.27	-0.02	A	14.27	-0.35	-0.02	A	19.16	0.49	0.04	A	5.27	-0.99	-0.06	A	1.18	-0.16	-0.01	A
30	80.28	-0.36	-0.03	A	32.97	-0.23	-0.02	A	0.14	-0.03	0.00	A	28.48	-0.44	-0.04	A	31.19	-0.66	-0.05	A	0.24	-0.17	-0.01	A	0.96	0.15	0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.15 (continued)
Spring 2012 AIMS Differential Item Functioning Reading CRT High School

	Reference: Male N= 38802 Focal: Female N= 38343				Reference: Hispanic N= 46251 Focal: Non Hispanic N= 31025				Reference: White N= 62485 Focal: Africa American N= 4607				Reference: White N= 62485 Focal: Native American N= 4593				Reference: White N= 62485 Focal: Asian N= 2348				Reference: White N= 62485 Focal: Hawaii N= 227				Reference: White N= 62485 Focal: Multiple Indicator N= 14			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	6.36	0.09	0.01	A	65.65	-0.31	-0.03	A	11.31	0.26	0.02	A	2.52	-0.13	-0.01	A	0.06	-0.03	0.00	A	2.15	-0.51	-0.04	A	1.10	0.14	0.01	A
32	114.35	-0.47	-0.03	A	166.53	-0.56	-0.04	A	11.44	-0.29	-0.02	A	3.41	0.16	0.01	A	0.61	0.11	0.01	A	4.20	0.76	0.06	A	0.02	-0.02	0.00	A
33	0.53	0.03	0.00	A	0.01	0.00	0.00	A	69.82	-0.68	-0.05	A	42.72	0.55	0.05	A	0.53	0.10	0.01	A	0.03	0.06	0.00	A	7.07	-0.39	-0.03	A
34	22.78	0.22	0.01	A	2.77	0.08	0.01	A	3.16	0.16	0.01	A	0.03	0.02	0.00	A	0.14	0.06	0.00	A	0.68	0.34	0.02	A	2.99	0.29	0.02	A
35	247.27	-0.66	-0.05	A	149.69	-0.52	-0.04	A	0.29	-0.05	0.00	A	47.21	-0.57	-0.05	A	0.02	-0.02	0.00	A	0.56	-0.27	-0.02	A	0.67	-0.12	-0.01	A
36	3.29	-0.08	-0.01	A	4.99	-0.10	-0.01	A	12.93	0.32	0.02	A	0.67	-0.07	-0.01	A	20.05	0.65	0.04	A	1.00	0.40	0.03	A	0.35	0.09	0.01	A
37	322.69	0.66	0.06	A	78.59	0.34	0.03	A	24.52	0.39	0.04	A	22.05	0.37	0.03	A	8.00	0.31	0.03	A	0.00	0.00	0.00	A	0.33	0.08	0.01	A
38	22.00	-0.18	-0.02	A	2.72	0.06	0.01	A	76.74	-0.67	-0.06	A	17.94	-0.32	-0.03	A	0.43	0.08	0.01	A	5.08	-0.72	-0.07	A	4.14	-0.28	-0.02	A
39	62.04	0.35	0.02	A	3.30	0.08	0.01	A	0.68	-0.07	-0.01	A	37.44	-0.51	-0.04	A	3.17	-0.27	-0.01	A	0.03	0.06	0.00	A	0.77	0.15	0.01	A
40	117.64	0.60	0.02	A	9.81	-0.17	-0.01	A	0.63	0.08	0.00	A	10.68	-0.32	-0.02	A	13.30	-0.68	-0.02	A	0.86	0.48	0.02	A	1.78	0.27	0.01	A
41	310.55	0.72	0.05	A	163.08	-0.53	-0.04	A	13.61	0.30	0.02	A	14.55	-0.32	-0.03	A	7.03	0.35	0.02	A	0.03	0.07	0.01	A	0.56	0.11	0.01	A
42	351.12	0.74	0.06	A	1.81	0.05	0.01	A	12.65	-0.29	-0.02	A	68.83	-0.71	-0.05	A	22.21	0.59	0.04	A	0.18	-0.15	-0.01	A	0.19	-0.06	0.00	A
43	159.40	0.56	0.03	A	3.72	-0.09	-0.01	A	6.93	-0.22	-0.02	A	0.32	0.05	0.00	A	0.67	0.12	0.01	A	0.83	0.36	0.02	A	1.18	0.18	0.01	A
44	31.63	0.26	0.02	A	46.24	-0.32	-0.02	A	0.70	0.08	0.01	A	0.70	-0.08	-0.01	A	8.83	-0.48	-0.02	A	0.98	-0.40	-0.03	A	0.55	-0.12	-0.01	A
45	117.57	0.40	0.04	A	21.01	0.18	0.02	A	2.59	0.12	0.01	A	5.05	0.17	0.02	A	0.02	0.01	0.00	A	0.21	0.15	0.01	A	0.83	0.12	0.01	A
46	24.91	-0.19	-0.02	A	37.97	-0.24	-0.02	A	3.48	0.15	0.01	A	5.48	-0.19	-0.01	A	7.48	-0.30	-0.03	A	0.15	0.13	0.01	A	1.04	-0.14	-0.01	A
47	74.37	0.36	0.02	A	11.97	0.15	0.01	A	6.77	0.22	0.02	A	13.23	-0.29	-0.02	A	0.01	-0.01	0.00	A	0.27	-0.19	-0.01	A	0.67	-0.12	-0.01	A
48	0.39	0.02	0.00	A	6.98	0.10	0.01	A	1.49	0.10	0.01	A	4.28	0.17	0.01	A	17.60	0.44	0.04	A	0.05	-0.08	-0.01	A	0.78	0.12	0.01	A
49	308.34	0.69	0.06	A	23.35	0.19	0.02	A	1.14	-0.09	-0.01	A	2.31	0.12	0.01	A	1.12	0.13	0.01	A	1.22	-0.39	-0.03	A	0.44	0.09	0.01	A
50	243.65	0.55	0.05	A	0.99	-0.04	0.00	A	5.37	-0.17	-0.02	A	2.20	0.11	0.01	A	5.39	0.24	0.02	A	0.02	0.04	0.00	A	0.18	-0.05	-0.01	A
51	169.47	0.63	0.03	A	2.89	0.08	0.01	A	34.62	-0.54	-0.03	A	46.90	-0.59	-0.04	A	3.18	0.30	0.01	A	0.66	0.36	0.02	A	0.13	-0.06	0.00	A
52	90.70	-0.38	-0.03	A	82.84	-0.38	-0.02	A	2.88	-0.15	-0.01	A	64.26	-0.74	-0.05	A	0.01	-0.01	0.00	A	0.35	-0.22	-0.02	A	0.13	-0.05	0.00	A
53	25.73	-0.22	-0.01	A	27.85	0.24	0.02	A	40.74	-0.55	-0.04	A	46.47	-0.56	-0.05	A	0.11	-0.05	0.00	A	9.50	-1.14	-0.08	B<	0.21	-0.07	0.00	A
54	855.83	1.07	0.10	B>	101.56	-0.38	-0.03	A	4.17	-0.16	-0.01	A	2.18	0.11	0.01	A	0.74	-0.10	-0.01	A	1.50	-0.40	-0.04	A	0.01	0.01	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.16
Spring 2012 AIMS Differential Item Functioning Science CRT Grade 4

	Reference: Male N= 41623				Reference: Hispanic N= 46199				Reference: White N= 65574				Reference: White N= 65574				Reference: White N= 65574				Reference: White N= 65574				Reference: White N= 65574			
	Focal: Female N= 40152				Focal: Non Hispanic N= 35689				Focal: Africa American N= 4703				Focal: Native American N= 6114				Focal: Asian N= 2414				Focal: Hawaii N= 264				Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	38.34	0.24	0.02	A	0.27	0.02	0.00	A	4.70	-0.17	-0.01	A	0.35	-0.04	0.00	A	0.20	0.06	0.00	A	0.01	-0.04	0.00	A	0.00	0.00	0.00	A
2	86.39	0.44	0.02	A	1.47	-0.06	0.00	A	1.03	0.10	0.01	A	2.65	-0.13	-0.01	A	2.53	-0.27	-0.01	A	0.01	0.05	0.00	A	1.37	0.20	0.01	A
3	3.18	0.08	0.00	A	122.11	-0.50	-0.04	A	11.20	0.30	0.02	A	7.21	0.21	0.02	A	0.08	-0.04	0.00	A	1.30	-0.44	-0.03	A	7.46	0.44	0.02	A
4	91.95	0.43	0.03	A	0.09	-0.01	0.00	A	4.07	-0.18	-0.01	A	43.26	-0.49	-0.04	A	21.02	-0.68	-0.03	A	0.95	0.42	0.02	A	0.11	0.05	0.00	A
5	37.73	-0.24	-0.02	A	17.46	-0.17	-0.01	A	17.36	-0.33	-0.03	A	3.91	0.14	0.01	A	0.07	-0.03	0.00	A	0.73	0.31	0.02	A	0.01	-0.01	0.00	A
6	9.48	0.12	0.01	A	0.00	0.00	0.00	A	21.71	-0.37	-0.03	A	30.35	-0.38	-0.03	A	3.71	0.25	0.02	A	0.53	-0.24	-0.02	A	0.35	-0.08	-0.01	A
7	125.61	0.41	0.04	A	4.40	0.08	0.01	A	0.19	0.03	0.00	A	3.65	-0.13	-0.01	A	11.54	0.40	0.03	A	0.01	-0.04	0.00	A	0.59	-0.10	-0.01	A
8	79.84	-0.33	-0.03	A	20.70	-0.17	-0.01	A	4.99	-0.17	-0.02	A	1.96	-0.10	-0.01	A	0.02	-0.02	0.00	A	1.64	-0.42	-0.03	A	0.03	0.02	0.00	A
9	39.92	0.64	0.01	A	20.64	0.46	0.01	A	1.30	-0.22	0.00	A	0.49	0.11	0.00	A	0.88	-0.32	0.00	A	0.00	0.05	0.00	A	0.14	-0.13	0.00	A
10	67.35	0.57	0.01	A	90.98	0.69	0.02	A	0.26	-0.07	0.00	A	1.08	-0.12	0.00	A	55.23	-1.35	-0.03	B<	0.39	-0.35	-0.01	A	0.36	0.15	0.00	A
11	9.76	-0.13	-0.01	A	19.12	0.19	0.01	A	0.31	0.05	0.00	A	36.26	0.45	0.04	A	9.33	-0.40	-0.02	A	0.40	-0.23	-0.02	A	7.85	0.41	0.03	A
12	269.12	0.62	0.05	A	40.10	0.25	0.02	A	0.68	0.07	0.01	A	9.68	-0.21	-0.02	A	0.92	0.12	0.01	A	0.30	0.18	0.01	A	3.07	-0.23	-0.02	A
13	33.76	0.24	0.02	A	2.44	-0.07	-0.01	A	0.13	-0.03	0.00	A	14.69	0.28	0.02	A	0.16	0.06	0.00	A	0.25	-0.18	-0.01	A	0.03	-0.03	0.00	A
14	17.52	0.20	0.01	A	170.71	-0.64	-0.04	A	0.54	0.07	0.00	A	19.14	0.36	0.02	A	4.26	0.37	0.01	A	0.56	0.33	0.02	A	7.67	0.49	0.02	A
15	190.46	-0.55	-0.04	A	108.72	-0.42	-0.03	A	3.70	0.16	0.01	A	17.48	-0.30	-0.02	A	0.44	0.09	0.01	A	0.05	-0.07	-0.01	A	5.66	0.33	0.02	A
16	38.15	-0.25	-0.02	A	106.22	-0.42	-0.03	A	0.50	0.06	0.00	A	25.97	-0.36	-0.03	A	3.96	0.28	0.01	A	0.09	-0.11	-0.01	A	0.29	-0.08	-0.01	A
17	49.49	0.27	0.02	A	4.61	0.09	0.01	A	3.00	-0.14	-0.01	A	22.14	-0.33	-0.03	A	1.02	0.13	0.01	A	0.22	-0.16	-0.01	A	1.90	-0.18	-0.01	A
18	172.94	0.45	0.04	A	17.73	0.15	0.02	A	5.55	0.18	0.02	A	31.30	-0.38	-0.04	A	6.61	-0.26	-0.03	A	0.75	0.26	0.03	A	1.82	-0.16	-0.02	A
19	63.21	0.34	0.02	A	2.57	-0.07	0.00	A	0.04	0.02	0.00	A	28.23	-0.38	-0.03	A	0.01	0.02	0.00	A	0.00	-0.02	0.00	A	2.07	0.22	0.01	A
20	5.90	0.09	0.01	A	42.73	0.24	0.03	A	3.58	0.14	0.01	A	1.96	0.09	0.01	A	13.86	0.43	0.03	A	0.10	0.10	0.01	A	1.21	0.14	0.01	A
21	9.85	0.12	0.01	A	6.80	-0.10	-0.01	A	0.03	0.01	0.00	A	11.05	-0.24	-0.02	A	1.83	0.16	0.01	A	0.93	-0.31	-0.03	A	1.21	-0.14	-0.01	A
22	28.56	0.18	0.02	A	9.27	-0.11	-0.01	A	6.57	0.19	0.02	A	6.79	-0.18	-0.02	A	1.55	0.13	0.01	A	1.95	0.43	0.04	A	1.10	0.12	0.01	A
23	122.21	-0.46	-0.03	A	92.45	-0.41	-0.03	A	4.23	-0.17	-0.01	A	24.73	-0.36	-0.03	A	7.19	0.38	0.02	A	1.26	-0.41	-0.03	A	0.00	0.00	0.00	A
24	1.31	0.06	0.00	A	2.20	-0.08	0.00	A	2.70	-0.17	-0.01	A	0.80	-0.08	0.00	A	3.12	0.37	0.01	A	0.10	-0.15	-0.01	A	0.49	-0.13	0.00	A
25	40.57	0.27	0.02	A	36.53	0.26	0.02	A	22.27	-0.40	-0.03	A	13.26	-0.27	-0.02	A	9.62	0.45	0.02	A	0.48	0.28	0.02	A	1.50	-0.18	-0.01	A
26	0.66	0.03	0.00	A	0.39	-0.02	0.00	A	0.13	-0.03	0.00	A	0.15	0.03	0.00	A	1.75	0.15	0.01	A	0.19	0.14	0.01	A	1.44	-0.15	-0.01	A
27	360.78	-0.66	-0.06	A	7.79	-0.10	-0.01	A	15.75	-0.30	-0.03	A	2.07	-0.10	-0.01	A	1.15	0.12	0.01	A	0.61	-0.24	-0.02	A	3.14	-0.21	-0.02	A
28	3.56	-0.07	-0.01	A	12.14	-0.14	-0.01	A	7.77	-0.22	-0.02	A	2.67	-0.11	-0.01	A	0.27	-0.06	0.00	A	0.27	-0.18	-0.01	A	0.01	-0.01	0.00	A
29	3.65	-0.07	-0.01	A	94.61	-0.37	-0.03	A	0.00	0.00	0.00	A	9.46	-0.21	-0.02	A	0.18	0.05	0.00	A	1.01	-0.31	-0.03	A	6.74	0.35	0.03	A
30	434.46	-0.87	-0.06	A	73.63	-0.36	-0.03	A	0.91	-0.08	-0.01	A	2.47	-0.11	-0.01	A	7.46	0.39	0.02	A	0.49	-0.26	-0.02	A	1.09	0.15	0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.16 (continued)
Spring 2012 AIMS Differential Item Functioning Science CRT Grade 4

	Reference: Male N= 41623 Focal: Female N= 40152				Reference: Hispanic N= 46199 Focal: Non Hispanic N= 35689				Reference: White N= 65574 Focal: Africa American N= 4703				Reference: White N= 65574 Focal: Native American N= 6114				Reference: White N= 65574 Focal: Asian N= 2414				Reference: White N= 65574 Focal: Hawaii N= 264				Reference: White N= 65574 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	56.16	-0.45	-0.01	A	18.98	0.27	0.01	A	51.87	-0.77	-0.03	A	0.20	0.04	0.00	A	4.49	0.49	0.01	A	0.19	-0.23	-0.01	A	1.52	-0.25	-0.01	A
32	0.39	0.02	0.00	A	16.16	-0.16	-0.01	A	0.15	-0.03	0.00	A	0.51	-0.05	0.00	A	2.67	-0.20	-0.01	A	0.01	-0.03	0.00	A	2.10	0.19	0.01	A
33	159.33	-0.47	-0.04	A	50.42	-0.27	-0.02	A	1.54	-0.10	-0.01	A	11.79	-0.25	-0.02	A	0.99	-0.11	-0.01	A	0.16	0.13	0.01	A	0.29	-0.07	-0.01	A
34	379.42	-0.76	-0.06	A	2.23	-0.06	-0.01	A	2.51	-0.13	-0.01	A	2.20	-0.10	-0.01	A	1.21	-0.14	-0.01	A	2.20	0.54	0.04	A	0.96	-0.13	-0.01	A
35	80.42	-0.33	-0.03	A	11.15	-0.13	-0.01	A	5.74	-0.19	-0.02	A	9.76	0.22	0.02	A	16.98	-0.46	-0.04	A	0.36	0.20	0.02	A	1.90	0.18	0.01	A
36	39.60	0.35	0.01	A	0.26	-0.03	0.00	A	1.61	-0.14	-0.01	A	0.98	0.09	0.00	A	0.52	-0.14	0.00	A	0.09	0.16	0.01	A	0.63	0.16	0.01	A
37	33.18	0.21	0.02	A	0.66	-0.03	0.00	A	0.90	-0.07	-0.01	A	0.25	-0.03	0.00	A	0.49	0.08	0.01	A	0.02	0.05	0.00	A	0.00	0.01	0.00	A
38	210.40	0.52	0.05	A	2.42	0.06	0.01	A	1.93	0.11	0.01	A	3.15	-0.12	-0.01	A	12.33	0.39	0.03	A	0.00	0.00	0.00	A	0.54	-0.09	-0.01	A
39	129.68	0.64	0.02	A	68.40	0.47	0.02	A	2.62	-0.17	-0.01	A	51.55	-0.63	-0.04	A	0.19	0.09	0.00	A	0.00	0.02	0.00	A	0.14	-0.08	0.00	A
40	430.28	0.92	0.05	A	54.29	-0.33	-0.02	A	3.14	0.16	0.01	A	31.01	0.43	0.03	A	0.54	0.11	0.01	A	0.12	0.14	0.01	A	0.05	0.03	0.00	A
41	49.38	0.44	0.01	A	7.75	0.18	0.01	A	5.07	-0.27	-0.01	A	3.39	0.20	0.01	A	4.03	-0.42	-0.01	A	2.12	0.96	0.02	A	0.04	-0.05	0.00	A
42	39.81	-0.26	-0.02	A	28.62	-0.23	-0.02	A	18.92	-0.36	-0.03	A	59.63	0.58	0.05	A	13.08	0.55	0.03	A	4.16	0.80	0.05	A	0.48	-0.10	-0.01	A
43	45.93	0.29	0.02	A	21.02	0.20	0.02	A	0.49	-0.06	0.00	A	0.12	-0.03	0.00	A	0.82	0.13	0.01	A	0.65	0.31	0.02	A	0.23	0.07	0.00	A
44	12.50	0.17	0.01	A	92.84	0.47	0.03	A	30.00	-0.50	-0.03	A	0.44	0.06	0.00	A	1.36	-0.19	-0.01	A	0.00	-0.01	0.00	A	6.11	-0.40	-0.02	A
45	57.61	-0.27	-0.02	A	45.27	-0.25	-0.02	A	0.23	-0.04	0.00	A	4.19	-0.14	-0.01	A	6.72	0.27	0.02	A	0.00	0.01	0.00	A	8.85	0.36	0.03	A
46	72.43	-0.39	-0.02	A	53.86	-0.34	-0.02	A	10.17	0.29	0.02	A	5.79	-0.19	-0.01	A	0.02	-0.02	0.00	A	0.86	-0.36	-0.02	A	1.00	0.16	0.01	A
47	112.81	-0.39	-0.03	A	67.32	-0.31	-0.02	A	0.23	0.04	0.00	A	17.12	-0.29	-0.02	A	0.25	-0.06	0.00	A	1.36	0.38	0.03	A	0.32	0.07	0.01	A
48	171.40	-0.52	-0.04	A	5.25	-0.09	-0.01	A	14.11	-0.31	-0.02	A	3.13	-0.13	-0.01	A	1.81	0.18	0.01	A	1.68	-0.46	-0.03	A	3.99	-0.27	-0.02	A
49	112.39	0.43	0.03	A	436.55	-0.85	-0.06	A	3.65	0.16	0.01	A	49.83	-0.51	-0.04	A	0.57	0.10	0.01	A	2.48	-0.55	-0.04	A	0.53	0.10	0.01	A
50	0.01	0.00	0.00	A	131.02	-0.43	-0.03	A	27.40	-0.41	-0.04	A	20.63	-0.31	-0.03	A	0.00	0.00	0.00	A	0.00	0.00	0.00	A	0.04	0.03	0.00	A
51	3.69	0.07	0.01	A	6.66	0.10	0.01	A	6.59	-0.20	-0.02	A	1.69	-0.09	-0.01	A	0.03	-0.02	0.00	A	0.72	-0.27	-0.02	A	0.23	0.06	0.01	A
52	144.94	0.42	0.04	A	1.60	-0.05	0.00	A	5.79	-0.18	-0.02	A	5.42	-0.15	-0.01	A	3.58	-0.20	-0.02	A	0.01	-0.03	0.00	A	3.38	-0.22	-0.02	A
53	0.03	0.01	0.00	A	20.95	-0.18	-0.01	A	3.65	-0.15	-0.01	A	0.25	0.04	0.00	A	11.02	0.43	0.03	A	0.56	0.26	0.02	A	0.33	0.07	0.01	A
54	39.70	0.28	0.02	A	0.73	-0.04	0.00	A	1.85	-0.12	-0.01	A	21.94	-0.35	-0.03	A	10.84	0.55	0.02	A	4.46	0.88	0.05	A	0.00	-0.01	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.17
Spring 2012 AIMS Differential Item Functioning Science CRT Grade 8

	Reference: Male N= 40656 Focal: Female N= 39247				Reference: Hispanic N= 46391 Focal: Non Hispanic N= 33625				Reference: White N= 64191 Focal: Africa American N= 4914				Reference: White N= 64191 Focal: Native American N= 5749				Reference: White N= 64191 Focal: Asian N= 2271				Reference: White N= 64191 Focal: Hawaii N= 258				Reference: White N= 64191 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	48.55	0.35	0.02	A	41.86	0.34	0.02	A	1.39	-0.12	-0.01	A	25.86	-0.45	-0.03	A	19.88	-0.71	-0.03	A	2.04	0.70	0.03	A	2.54	-0.27	-0.01	A
2	104.05	-0.43	-0.03	A	1.28	0.05	0.00	A	0.38	0.05	0.00	A	29.14	-0.40	-0.03	A	2.05	0.22	0.01	A	1.97	-0.50	-0.03	A	0.06	-0.04	0.00	A
3	422.88	-0.87	-0.06	A	17.44	-0.18	-0.01	A	0.25	-0.04	0.00	A	6.69	-0.19	-0.02	A	2.60	-0.24	-0.01	A	1.39	0.44	0.03	A	0.29	-0.08	-0.01	A
4	27.49	0.48	0.01	A	6.23	-0.23	0.00	A	6.30	-0.41	-0.01	A	5.90	-0.34	-0.01	A	45.80	-1.81	-0.02	C<	1.24	-0.79	-0.01	A	0.02	0.04	0.00	A
5	15.14	-0.21	-0.01	A	47.34	0.38	0.02	A	305.68	-1.57	-0.09	C<	2.26	0.15	0.01	A	42.71	-1.10	-0.04	B<	4.74	-0.93	-0.04	A	8.55	-0.52	-0.02	A
6	917.29	-1.87	-0.06	C<	492.01	-1.37	-0.06	B<	17.36	0.50	0.02	A	6.61	-0.25	-0.01	A	8.22	-0.62	-0.01	A	0.25	0.28	0.01	A	0.83	0.20	0.01	A
7	136.03	0.40	0.04	A	34.11	0.21	0.02	A	0.95	0.07	0.01	A	3.77	0.13	0.01	A	1.81	-0.14	-0.01	A	0.47	-0.21	-0.02	A	0.84	0.11	0.01	A
8	281.50	-0.94	-0.04	A	36.77	-0.34	-0.02	A	21.82	-0.48	-0.02	A	184.99	-1.16	-0.07	B<	5.72	-0.49	-0.01	A	3.47	-0.86	-0.03	A	0.53	-0.14	-0.01	A
9	574.00	0.90	0.08	A	3.25	-0.07	0.00	A	5.36	-0.18	-0.02	A	20.99	-0.31	-0.03	A	0.74	-0.10	-0.01	A	3.60	0.64	0.05	A	0.66	-0.10	-0.01	A
10	283.89	-0.63	-0.05	A	57.23	-0.29	-0.03	A	7.58	-0.20	-0.02	A	29.27	-0.38	-0.04	A	1.24	-0.13	-0.01	A	1.44	-0.38	-0.03	A	0.10	-0.04	0.00	A
11	72.33	-0.33	-0.03	A	0.55	0.03	0.00	A	11.22	0.27	0.02	A	0.24	-0.04	0.00	A	2.17	0.19	0.01	A	0.11	0.12	0.01	A	0.07	0.04	0.00	A
12	4.66	0.10	0.01	A	32.08	0.26	0.02	A	4.03	-0.18	-0.01	A	5.52	0.19	0.01	A	4.09	0.33	0.01	A	0.40	-0.24	-0.01	A	0.17	0.07	0.00	A
13	87.05	-0.32	-0.03	A	65.65	0.30	0.03	A	10.68	-0.24	-0.02	A	0.49	0.05	0.00	A	4.58	-0.23	-0.02	A	0.36	0.18	0.02	A	1.64	-0.15	-0.02	A
14	17.51	0.19	0.01	A	0.01	0.00	0.00	A	3.77	0.17	0.01	A	9.01	0.24	0.02	A	3.19	0.30	0.01	A	2.56	-0.57	-0.04	A	0.81	0.14	0.01	A
15	52.37	-0.31	-0.02	A	205.95	-0.62	-0.05	A	1.29	-0.09	-0.01	A	0.36	0.05	0.00	A	24.09	-0.70	-0.03	A	0.94	-0.35	-0.02	A	0.01	0.02	0.00	A
16	20.94	0.22	0.01	A	45.95	-0.33	-0.02	A	0.38	0.06	0.00	A	0.02	-0.01	0.00	A	0.60	-0.13	-0.01	A	1.72	0.57	0.03	A	0.03	-0.03	0.00	A
17	24.36	-0.24	-0.01	A	24.77	-0.24	-0.02	A	0.14	-0.04	0.00	A	2.47	-0.13	-0.01	A	13.65	0.73	0.02	A	0.11	-0.14	-0.01	A	0.54	0.12	0.01	A
18	487.61	-0.94	-0.06	A	641.70	-1.08	-0.08	B<	7.49	-0.22	-0.02	A	22.19	-0.35	-0.03	A	26.01	-0.72	-0.04	A	3.36	-0.65	-0.05	A	0.04	-0.03	0.00	A
19	91.24	-0.34	-0.03	A	76.82	-0.33	-0.03	A	3.25	0.14	0.01	A	0.00	0.00	0.00	A	0.52	-0.08	-0.01	A	1.12	0.33	0.03	A	2.70	0.20	0.02	A
20	55.34	0.36	0.02	A	38.14	0.31	0.02	A	0.02	-0.01	0.00	A	5.25	0.19	0.01	A	0.10	-0.06	0.00	A	0.02	-0.06	0.00	A	0.12	0.06	0.00	A
21	66.85	0.29	0.03	A	69.19	-0.31	-0.03	A	2.12	0.11	0.01	A	20.79	-0.31	-0.03	A	7.43	-0.30	-0.03	A	0.65	0.25	0.02	A	0.67	0.10	0.01	A
22	181.93	-0.47	-0.05	A	40.94	-0.23	-0.02	A	4.59	-0.15	-0.01	A	5.58	0.16	0.02	A	16.72	0.44	0.04	A	0.04	0.06	0.01	A	5.81	-0.29	-0.03	A
23	4.10	0.08	0.01	A	64.46	0.36	0.02	A	0.56	-0.07	0.00	A	0.30	0.05	0.00	A	0.34	-0.07	-0.01	A	1.25	0.39	0.03	A	1.31	-0.17	-0.01	A
24	108.76	0.39	0.03	A	0.89	0.04	0.00	A	2.06	0.11	0.01	A	1.61	0.09	0.01	A	42.26	0.85	0.06	A	1.62	0.43	0.04	A	0.16	0.05	0.00	A
25	489.31	0.85	0.07	A	23.96	0.19	0.02	A	0.56	-0.06	-0.01	A	7.56	0.20	0.02	A	0.05	0.03	0.00	A	0.81	0.31	0.02	A	1.80	-0.17	-0.01	A
26	137.57	0.51	0.03	A	1.12	0.05	0.01	A	4.74	-0.18	-0.01	A	5.41	-0.18	-0.01	A	0.48	0.11	0.01	A	0.01	0.03	0.00	A	1.94	-0.20	-0.01	A
27	8.27	0.11	0.01	A	100.15	-0.39	-0.03	A	0.83	0.07	0.01	A	6.57	-0.18	-0.02	A	1.18	0.14	0.01	A	0.26	0.17	0.01	A	2.33	0.20	0.02	A
28	381.34	0.98	0.05	A	49.52	0.36	0.02	A	11.59	-0.32	-0.02	A	1.56	0.11	0.01	A	3.38	0.35	0.01	A	0.13	-0.15	-0.01	A	0.36	-0.10	0.00	A
29	373.90	0.83	0.05	A	8.84	0.13	0.01	A	11.59	-0.29	-0.02	A	6.51	-0.20	-0.02	A	0.02	0.02	0.00	A	0.35	-0.22	-0.01	A	0.11	-0.05	0.00	A
30	688.59	-0.92	-0.09	A	26.50	-0.19	-0.02	A	1.02	-0.07	-0.01	A	5.38	-0.16	-0.02	A	0.63	0.08	0.01	A	0.26	-0.16	-0.02	A	0.01	-0.01	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.17 (continued)
Spring 2012 AIMS Differential Item Functioning Science CRT Grade 8

	Reference: Male N= 40656 Focal: Female N= 39247				Reference: Hispanic N= 46391 Focal: Non Hispanic N= 33625				Reference: White N= 64191 Focal: Africa American N= 4914				Reference: White N= 64191 Focal: Native American N= 5749				Reference: White N= 64191 Focal: Asian N= 2271				Reference: White N= 64191 Focal: Hawaii N= 258				Reference: White N= 64191 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	4.21	-0.09	-0.01	A	3.02	0.08	0.00	A	2.69	0.15	0.01	A	27.54	0.43	0.03	A	0.00	0.00	0.00	A	0.65	0.33	0.02	A	0.03	0.03	0.00	A
32	93.10	0.40	0.03	A	0.00	0.00	0.00	A	6.13	-0.20	-0.02	A	10.74	-0.25	-0.02	A	21.61	-0.66	-0.03	A	0.01	0.03	0.00	A	0.18	-0.06	0.00	A
33	2.40	-0.07	0.00	A	0.02	0.01	0.00	A	0.80	0.08	0.01	A	2.66	-0.13	-0.01	A	1.21	-0.17	-0.01	A	0.30	-0.21	-0.01	A	0.55	0.11	0.01	A
34	31.45	-0.22	-0.02	A	0.42	-0.03	0.00	A	17.41	-0.33	-0.03	A	4.71	-0.16	-0.01	A	3.03	-0.23	-0.01	A	0.12	-0.12	-0.01	A	0.00	0.00	0.00	A
35	136.98	-0.42	-0.04	A	55.94	-0.28	-0.02	A	0.01	0.01	0.00	A	13.59	-0.25	-0.02	A	14.42	0.45	0.04	A	0.01	-0.03	0.00	A	0.00	0.01	0.00	A
36	138.16	0.67	0.02	A	53.73	0.43	0.02	A	0.81	0.10	0.00	A	2.40	-0.15	-0.01	A	2.99	-0.34	-0.01	A	0.86	-0.42	-0.02	A	4.31	-0.40	-0.01	A
37	115.46	0.45	0.03	A	27.06	0.23	0.02	A	3.40	0.16	0.01	A	11.65	0.27	0.02	A	0.08	-0.04	0.00	A	0.07	0.09	0.01	A	0.01	-0.02	0.00	A
38	129.31	0.41	0.04	A	15.15	0.15	0.01	A	1.33	-0.09	-0.01	A	7.51	0.19	0.02	A	1.09	0.12	0.01	A	0.01	0.02	0.00	A	1.16	0.14	0.01	A
39	255.05	0.92	0.03	A	12.69	0.21	0.01	A	7.40	-0.29	-0.01	A	13.04	-0.33	-0.02	A	4.37	-0.46	-0.01	A	2.46	-0.73	-0.03	A	1.23	-0.22	-0.01	A
40	6.33	-0.10	-0.01	A	0.02	0.01	0.00	A	5.93	-0.19	-0.02	A	12.88	-0.26	-0.02	A	61.44	1.11	0.07	B>	0.36	0.21	0.02	A	1.84	-0.18	-0.01	A
41	21.97	-0.18	-0.01	A	21.20	-0.18	-0.01	A	11.40	0.26	0.02	A	17.84	-0.30	-0.03	A	18.04	0.55	0.04	A	0.71	0.28	0.02	A	1.02	-0.13	-0.01	A
42	8.62	-0.11	-0.01	A	40.23	-0.24	-0.02	A	24.67	-0.37	-0.03	A	41.55	-0.45	-0.04	A	2.27	0.18	0.01	A	1.26	-0.35	-0.03	A	1.60	-0.16	-0.01	A
43	156.31	0.53	0.03	A	10.92	-0.14	-0.01	A	17.23	-0.34	-0.03	A	129.47	-0.83	-0.07	A	0.16	0.06	0.00	A	0.56	0.29	0.02	A	1.03	-0.15	-0.01	A
44	240.76	0.82	0.04	A	6.19	0.13	0.01	A	0.29	-0.05	0.00	A	0.12	0.03	0.00	A	0.02	0.03	0.00	A	0.00	-0.01	0.00	A	1.71	0.25	0.01	A
45	27.08	-0.18	-0.02	A	9.07	-0.11	-0.01	A	6.83	-0.19	-0.02	A	0.64	-0.05	-0.01	A	0.07	0.03	0.00	A	0.12	-0.10	-0.01	A	1.46	-0.14	-0.01	A
46	120.57	-0.41	-0.03	A	3.96	-0.08	-0.01	A	0.09	-0.02	0.00	A	1.41	0.09	0.01	A	13.85	0.47	0.03	A	0.02	-0.05	0.00	A	1.86	-0.18	-0.02	A
47	60.91	0.30	0.02	A	9.51	-0.12	-0.01	A	0.91	-0.08	-0.01	A	32.17	-0.43	-0.03	A	18.82	0.54	0.04	A	0.40	-0.22	-0.02	A	1.72	-0.17	-0.01	A
48	2.16	0.06	0.00	A	139.03	-0.48	-0.04	A	7.04	0.22	0.02	A	24.01	-0.36	-0.03	A	7.31	0.37	0.02	A	0.80	0.30	0.02	A	0.74	0.12	0.01	A
49	4.05	0.07	0.01	A	1.88	-0.05	0.00	A	31.76	0.43	0.04	A	0.65	-0.06	0.00	A	10.75	0.35	0.03	A	1.03	0.32	0.03	A	6.34	0.31	0.03	A
50	293.90	0.71	0.05	A	1.91	-0.06	0.00	A	9.22	-0.25	-0.02	A	16.08	-0.30	-0.02	A	8.57	-0.41	-0.02	A	0.02	-0.05	0.00	A	1.89	-0.19	-0.01	A
51	240.65	-0.59	-0.05	A	29.77	-0.21	-0.02	A	10.14	0.25	0.02	A	2.48	-0.11	-0.01	A	9.99	-0.38	-0.03	A	0.04	0.07	0.01	A	0.18	0.06	0.00	A
52	21.08	0.19	0.01	A	8.09	-0.12	-0.01	A	1.87	-0.11	-0.01	A	15.33	-0.29	-0.02	A	2.08	-0.21	-0.01	A	2.07	-0.47	-0.04	A	0.22	-0.07	0.00	A
53	429.76	0.77	0.07	A	14.74	0.15	0.02	A	1.09	0.08	0.01	A	6.43	0.18	0.02	A	7.43	0.33	0.02	A	3.91	0.64	0.06	A	0.22	-0.06	-0.01	A
54	1.45	0.04	0.00	A	0.85	0.03	0.01	A	13.88	-0.27	-0.03	A	3.13	0.12	0.01	A	20.10	0.50	0.05	A	1.35	-0.37	-0.03	A	0.60	-0.09	-0.01	A
55	1123.13	-1.22	-0.11	B<	98.23	-0.37	-0.03	A	13.34	-0.28	-0.02	A	6.75	-0.18	-0.02	A	1.55	-0.14	-0.01	A	0.00	-0.01	0.00	A	0.51	-0.09	-0.01	A
56	627.58	1.02	0.07	B>	10.01	0.13	0.01	A	17.43	-0.34	-0.03	A	2.21	0.11	0.01	A	2.71	0.23	0.01	A	0.30	-0.19	-0.01	A	0.03	0.03	0.00	A
57	39.91	0.29	0.02	A	26.82	-0.24	-0.01	A	0.08	-0.02	0.00	A	22.68	-0.37	-0.03	A	0.00	-0.01	0.00	A	0.04	0.07	0.00	A	0.04	0.03	0.00	A
58	204.99	0.50	0.05	A	3.71	-0.07	0.00	A	0.10	0.02	0.00	A	5.54	0.16	0.02	A	0.94	0.10	0.01	A	0.13	0.11	0.01	A	0.43	-0.08	-0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.18
Spring 2012 AIMS Differential Item Functioning Science CRT High School

	Reference: Male N= 27132 Focal: Female N= 26120				Reference: Hispanic N= 30160 Focal: Non Hispanic N= 23185				Reference: White N= 42434 Focal: Africa American N= 3565				Reference: White N= 42434 Focal: Native American N= 3716				Reference: White N= 42434 Focal: Asian N= 1337				Reference: White N= 42434 Focal: Hawaii N= 160				Reference: White N= 42434 Focal: Multiple Indicator N= 10			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	39.35	-0.44	-0.02	A	5.22	-0.16	-0.01	A	79.57	-1.04	-0.05	B<	3.39	0.23	0.01	A	37.60	-1.34	-0.04	B<	0.46	-0.40	-0.02	A	0.03	-0.04	0.00	A
2	86.48	-0.67	-0.02	A	14.49	-0.27	-0.01	A	1.16	-0.14	-0.01	A	12.37	-0.42	-0.02	A	2.89	-0.41	-0.01	A	0.91	0.64	0.02	A	0.94	-0.24	-0.01	A
3	32.78	-0.27	-0.02	A	24.65	-0.24	-0.02	A	0.11	-0.03	0.00	A	0.09	-0.03	0.00	A	0.86	-0.15	-0.01	A	0.20	-0.18	-0.02	A	1.04	0.18	0.01	A
4	14.19	-0.24	-0.01	A	0.98	-0.06	0.00	A	7.11	-0.32	-0.02	A	13.39	-0.40	-0.02	A	8.97	-0.68	-0.02	A	0.12	-0.18	-0.01	A	0.01	-0.02	0.00	A
5	78.66	0.50	0.03	A	9.30	-0.17	-0.01	A	22.43	-0.49	-0.03	A	21.57	-0.46	-0.03	A	3.53	-0.35	-0.02	A	3.50	-0.86	-0.06	A	0.25	-0.10	-0.01	A
6	13.18	0.17	0.01	A	1.33	0.06	0.00	A	5.93	-0.23	-0.02	A	1.41	-0.11	-0.01	A	0.92	-0.15	-0.01	A	0.06	0.11	0.01	A	1.34	-0.20	-0.02	A
7	283.88	-0.97	-0.05	A	9.52	-0.18	-0.01	A	4.44	-0.22	-0.01	A	2.14	0.15	0.01	A	22.16	-0.92	-0.04	A	2.82	-0.81	-0.05	A	0.84	0.19	0.01	A
8	0.00	0.00	0.00	A	1.89	0.08	0.01	A	48.56	-0.70	-0.05	A	16.39	-0.39	-0.03	A	11.62	-0.68	-0.03	A	5.82	-1.13	-0.07	A	1.54	0.25	0.01	A
9	95.00	-0.43	-0.04	A	26.60	-0.23	-0.02	A	3.60	-0.17	-0.02	A	0.05	-0.02	0.00	A	4.38	0.31	0.03	A	0.79	0.36	0.03	A	0.53	0.12	0.01	A
10	12.67	0.16	0.01	A	16.59	0.19	0.02	A	1.22	0.10	0.01	A	0.09	-0.03	0.00	A	6.77	-0.39	-0.03	A	0.00	0.00	0.00	A	0.02	-0.02	0.00	A
11	28.56	0.26	0.02	A	4.11	-0.10	-0.01	A	3.54	0.18	0.01	A	0.00	0.00	0.00	A	4.00	0.35	0.02	A	0.14	-0.16	-0.01	A	2.17	-0.25	-0.02	A
12	34.94	-0.35	-0.02	A	27.05	-0.31	-0.02	A	0.34	-0.06	0.00	A	15.10	0.41	0.03	A	7.04	-0.58	-0.02	A	0.53	-0.36	-0.02	A	2.89	0.38	0.02	A
13	10.53	-0.17	-0.01	A	69.20	-0.44	-0.03	A	1.36	-0.12	-0.01	A	6.02	0.24	0.02	A	0.05	-0.04	0.00	A	1.59	0.60	0.04	A	5.08	0.44	0.03	A
14	51.21	-0.33	-0.03	A	69.15	-0.39	-0.03	A	17.28	-0.38	-0.03	A	0.02	0.01	0.00	A	0.58	-0.12	-0.01	A	1.11	-0.44	-0.04	A	0.21	-0.08	-0.01	A
15	138.52	0.57	0.04	A	7.64	0.14	0.01	A	2.62	-0.15	-0.01	A	15.16	-0.35	-0.03	A	4.25	-0.34	-0.02	A	0.62	0.35	0.03	A	0.23	-0.08	-0.01	A
16	0.56	0.05	0.00	A	2.70	0.11	0.01	A	9.24	-0.36	-0.02	A	5.39	-0.26	-0.01	A	36.28	-1.34	-0.05	B<	0.06	0.14	0.01	A	0.32	-0.14	-0.01	A
17	13.65	0.18	0.01	A	11.41	-0.16	-0.02	A	0.81	0.08	0.01	A	4.68	-0.19	-0.02	A	0.39	-0.10	-0.01	A	0.40	0.29	0.02	A	0.00	0.01	0.00	A
18	87.62	-0.42	-0.04	A	3.52	-0.09	-0.01	A	10.45	-0.29	-0.03	A	1.94	0.12	0.01	A	6.30	0.37	0.03	A	2.76	0.66	0.06	A	0.61	-0.13	-0.01	A
19	3.44	-0.08	-0.01	A	2.65	-0.07	0.00	A	0.01	0.01	0.00	A	2.45	-0.13	-0.01	A	17.51	0.62	0.05	A	1.50	-0.48	-0.05	A	0.01	0.01	0.00	A
20	24.92	0.24	0.02	A	0.72	0.04	0.00	A	13.59	-0.34	-0.03	A	0.32	0.05	0.00	A	7.27	-0.41	-0.03	A	0.53	0.31	0.03	A	0.03	0.03	0.00	A
21	85.79	0.42	0.04	A	37.36	0.29	0.02	A	0.70	0.08	0.01	A	0.25	-0.04	0.00	A	1.06	-0.15	-0.01	A	1.22	-0.45	-0.04	A	0.17	0.07	0.01	A
22	10.33	-0.15	-0.01	A	6.64	-0.12	-0.01	A	1.77	0.12	0.01	A	16.94	-0.40	-0.03	A	0.29	-0.08	-0.01	A	3.33	-0.84	-0.06	A	1.10	-0.17	-0.01	A
23	107.72	0.46	0.04	A	7.51	0.12	0.01	A	5.13	0.20	0.02	A	0.65	-0.07	-0.01	A	7.42	0.42	0.03	A	0.23	0.18	0.02	A	5.20	-0.36	-0.03	A
24	11.63	0.20	0.01	A	1.85	0.08	0.01	A	5.91	-0.27	-0.02	A	20.98	-0.46	-0.03	A	24.19	-1.01	-0.04	B<	1.47	-0.58	-0.03	A	4.45	0.49	0.02	A
25	86.23	0.41	0.04	A	12.63	-0.16	-0.01	A	1.77	0.12	0.01	A	19.31	-0.38	-0.04	A	2.28	0.22	0.02	A	0.25	0.19	0.02	A	0.49	0.11	0.01	A
26	7.04	0.12	0.01	A	0.19	-0.02	0.00	A	1.31	0.10	0.01	A	11.37	-0.30	-0.03	A	6.33	0.37	0.03	A	4.28	0.84	0.08	A	4.20	-0.34	-0.03	A
27	8.85	0.13	0.01	A	8.68	0.13	0.02	A	14.53	-0.33	-0.03	A	17.99	-0.36	-0.03	A	1.66	0.19	0.02	A	10.11	-1.30	-0.12	B<	2.09	-0.22	-0.02	A
28	112.29	-0.48	-0.04	A	8.45	-0.14	-0.01	A	0.11	-0.03	0.00	A	1.38	-0.11	-0.01	A	0.75	0.13	0.01	A	0.02	-0.06	-0.01	A	0.28	-0.09	-0.01	A
29	59.18	0.35	0.03	A	71.98	-0.39	-0.03	A	0.03	0.02	0.00	A	0.81	-0.08	-0.01	A	0.02	0.02	0.00	A	0.02	0.06	0.01	A	2.68	0.27	0.02	A
30	38.00	0.27	0.03	A	0.98	-0.04	0.00	A	8.73	0.26	0.02	A	3.68	-0.16	-0.01	A	3.56	0.28	0.02	A	0.00	0.03	0.00	A	1.14	0.17	0.02	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

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Table 9.2.1.18 (continued)
Spring 2012 AIMS Differential Item Functioning Science CRT High School

	Reference: Male N= 27132 Focal: Female N= 26120				Reference: Hispanic N= 30160 Focal: Non Hispanic N= 23185				Reference: White N= 42434 Focal: Africa American N= 3565				Reference: White N= 42434 Focal: Native American N= 3716				Reference: White N= 42434 Focal: Asian N= 1337				Reference: White N= 42434 Focal: Hawaii N= 160				Reference: White N= 42434 Focal: Multiple Indicator N= 10			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
31	23.01	0.25	0.02	A	25.68	0.27	0.02	A	0.02	-0.02	0.00	A	0.00	-0.01	0.00	A	4.58	0.39	0.02	A	0.47	0.33	0.02	A	1.71	-0.25	-0.02	A
32	7.62	-0.12	-0.01	A	39.57	-0.29	-0.03	A	13.18	0.32	0.03	A	5.57	-0.20	-0.02	A	11.90	0.55	0.04	A	0.80	0.38	0.03	A	0.29	0.09	0.01	A
33	25.89	-0.25	-0.02	A	19.15	-0.22	-0.02	A	4.18	0.20	0.02	A	0.00	-0.01	0.00	A	0.13	0.06	0.00	A	0.34	0.26	0.02	A	0.45	-0.12	-0.01	A
34	97.26	0.42	0.04	A	2.00	-0.06	0.00	A	8.48	0.25	0.02	A	3.94	0.17	0.02	A	9.84	0.43	0.04	A	1.06	-0.41	-0.04	A	0.04	0.03	0.00	A
35	68.43	0.55	0.02	A	0.59	0.05	0.00	A	10.82	-0.39	-0.02	A	0.13	-0.04	0.00	A	0.48	0.17	0.01	A	0.86	-0.51	-0.02	A	0.20	0.12	0.00	A
36	267.34	0.89	0.05	A	0.00	0.00	0.00	A	1.15	-0.11	-0.01	A	0.48	0.07	0.01	A	0.29	-0.10	-0.01	A	0.27	0.24	0.02	A	0.00	0.00	0.00	A
37	0.27	0.02	0.00	A	50.46	-0.35	-0.02	A	0.44	-0.06	0.00	A	1.07	-0.10	-0.01	A	0.37	0.09	0.01	A	0.22	-0.21	-0.02	A	4.29	0.35	0.03	A
38	194.16	-0.65	-0.05	A	79.25	-0.43	-0.03	A	0.06	0.02	0.00	A	0.11	-0.03	0.00	A	8.06	0.44	0.03	A	0.02	-0.06	-0.01	A	9.15	0.51	0.04	A
39	90.52	0.47	0.03	A	0.05	0.01	0.00	A	0.31	-0.05	0.00	A	1.59	0.12	0.01	A	5.68	0.42	0.03	A	0.42	0.28	0.02	A	0.38	0.11	0.01	A
40	4.88	-0.11	-0.01	A	1.75	-0.06	0.00	A	24.11	-0.45	-0.04	A	0.26	-0.05	0.00	A	1.12	-0.17	-0.01	A	0.22	-0.19	-0.02	A	0.01	0.02	0.00	A
41	8.35	0.14	0.01	A	9.10	0.15	0.01	A	0.11	-0.03	0.00	A	22.77	0.45	0.04	A	0.54	-0.12	-0.01	A	0.29	0.24	0.02	A	0.84	0.17	0.01	A
42	32.93	-0.28	-0.02	A	17.33	-0.21	-0.02	A	25.71	-0.48	-0.04	A	3.08	-0.16	-0.01	A	3.18	-0.30	-0.02	A	2.23	0.68	0.05	A	0.21	0.08	0.01	A
43	26.18	0.31	0.01	A	0.56	0.05	0.00	A	0.87	-0.11	-0.01	A	3.51	0.19	0.01	A	1.09	0.23	0.01	A	0.01	0.06	0.00	A	1.61	-0.28	-0.01	A
44	229.93	-0.73	-0.06	A	69.60	-0.40	-0.03	A	1.29	0.10	0.01	A	0.51	0.06	0.01	A	2.53	0.26	0.02	A	0.04	-0.08	-0.01	A	0.20	0.08	0.01	A
45	263.31	-0.74	-0.06	A	5.26	-0.11	-0.01	A	0.18	-0.04	0.00	A	5.22	-0.20	-0.02	A	7.17	0.41	0.03	A	0.02	-0.05	0.00	A	0.83	-0.15	-0.01	A
46	139.78	0.72	0.04	A	12.56	0.22	0.01	A	10.75	0.37	0.02	A	6.79	0.28	0.02	A	6.22	0.55	0.02	A	0.09	0.16	0.01	A	0.00	0.01	0.00	A
47	244.08	-0.95	-0.05	A	0.39	0.04	0.00	A	50.36	-0.76	-0.05	A	0.48	-0.07	0.00	A	7.39	-0.56	-0.02	A	3.78	-0.93	-0.05	A	0.10	-0.07	0.00	A
48	0.75	-0.05	0.00	A	2.68	-0.09	-0.01	A	6.44	0.27	0.02	A	7.73	-0.27	-0.02	A	3.62	-0.37	-0.02	A	1.03	-0.49	-0.03	A	1.58	0.26	0.01	A
49	253.96	0.80	0.06	A	0.24	-0.02	0.00	A	1.82	0.13	0.01	A	0.70	-0.08	-0.01	A	1.26	0.18	0.01	A	0.68	0.37	0.03	A	0.02	-0.02	0.00	A
50	244.95	0.99	0.04	A	34.92	0.37	0.02	A	0.17	-0.05	0.00	A	1.80	0.15	0.01	A	2.61	0.39	0.01	A	0.01	0.05	0.00	A	2.44	0.37	0.02	A
51	58.40	0.35	0.03	A	8.07	-0.13	-0.01	A	2.20	0.14	0.01	A	0.45	0.06	0.01	A	24.28	0.72	0.06	A	0.01	0.04	0.00	A	0.97	-0.16	-0.01	A
52	2.97	0.08	0.01	A	3.02	0.08	0.01	A	11.60	0.31	0.03	A	0.38	0.06	0.01	A	21.52	0.67	0.06	A	1.42	-0.50	-0.04	A	2.33	-0.25	-0.02	A
53	3.06	0.11	0.00	A	5.17	0.14	0.01	A	7.10	-0.30	-0.02	A	8.26	0.31	0.02	A	0.19	-0.10	0.00	A	0.15	0.22	0.01	A	0.05	-0.05	0.00	A
54	235.98	-0.70	-0.06	A	7.31	0.13	0.01	A	6.13	-0.22	-0.02	A	0.01	0.01	0.00	A	0.18	0.07	0.01	A	2.51	-0.67	-0.06	A	0.02	0.02	0.00	A
55	124.26	-0.56	-0.04	A	4.17	-0.10	-0.01	A	14.11	-0.36	-0.03	A	0.53	-0.07	-0.01	A	0.12	0.06	0.00	A	0.21	0.20	0.02	A	5.28	-0.40	-0.03	A
56	32.91	-0.31	-0.02	A	6.06	-0.14	-0.01	A	4.12	0.21	0.01	A	7.69	0.28	0.02	A	17.36	0.85	0.04	A	0.35	-0.27	-0.02	A	0.33	0.11	0.01	A
57	47.90	0.31	0.03	A	63.95	-0.36	-0.03	A	4.76	0.20	0.02	A	7.28	-0.24	-0.02	A	5.33	0.32	0.03	A	1.21	0.44	0.04	A	1.72	0.21	0.02	A
58	24.07	0.21	0.02	A	2.23	-0.07	0.00	A	1.83	0.12	0.01	A	5.43	-0.20	-0.02	A	0.59	0.11	0.01	A	0.02	-0.05	0.00	A	0.02	-0.02	0.00	A
59	64.35	0.46	0.02	A	2.05	0.08	0.01	A	0.10	-0.03	0.00	A	1.86	-0.13	-0.01	A	0.06	0.05	0.00	A	0.96	-0.46	-0.03	A	1.63	-0.27	-0.01	A
60	211.17	0.77	0.05	A	16.86	-0.22	-0.01	A	1.44	0.12	0.01	A	1.80	0.13	0.01	A	0.03	-0.03	0.00	A	0.12	0.15	0.01	A	0.33	0.11	0.01	A
61	44.46	0.35	0.02	A	0.02	-0.01	0.00	A	1.06	-0.10	-0.01	A	9.43	0.30	0.02	A	0.15	0.07	0.00	A	0.47	0.31	0.02	A	1.45	0.22	0.01	A
62	0.69	-0.04	0.00	A	20.23	-0.21	-0.02	A	1.25	-0.10	-0.01	A	32.88	-0.52	-0.04	A	1.11	0.15	0.01	A	0.00	0.03	0.00	A	2.63	0.26	0.02	A
63	143.06	0.70	0.04	A	7.81	0.16	0.01	A	2.79	-0.18	-0.01	A	14.48	0.40	0.03	A	3.09	0.39	0.01	A	2.17	0.81	0.04	A	0.33	-0.12	-0.01	A
64	28.08	-0.24	-0.02	A	157.11	-0.58	-0.05	A	8.60	-0.26	-0.02	A	0.33	-0.05	0.00	A	0.57	-0.12	-0.01	A	0.38	0.25	0.02	A	1.06	-0.17	-0.01	A
65	0.29	-0.03	0.00	A	2.64	-0.08	-0.01	A	29.43	-0.50	-0.04	A	11.24	0.30	0.03	A	3.66	0.33	0.02	A	1.60	0.57	0.04	A	0.12	0.06	0.00	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.19
Spring 2012 AIMS Differential Item Functioning Writing CRT Grade 5

	Reference: Male N= 42024 Focal: Female N= 40292				Reference: Hispanic N= 46571 Focal: Non Hispanic N= 35826				Reference: White N= 66156 Focal: Africa American N= 4647				Reference: White N= 66156 Focal: Native American N= 6021				Reference: White N= 66156 Focal: Asian N= 2514				Reference: White N= 66156 Focal: Hawaii N= 279				Reference: White N= 66156 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	5.51	0.16	0.00	A	11.65	-0.23	-0.01	A	14.18	-0.46	-0.02	A	14.18	-0.40	-0.02	A	34.18	-1.31	-0.02	B<	2.08	-0.79	-0.02	A	0.26	0.13	0.00	A
2	145.93	0.45	0.04	A	1.22	-0.04	0.00	A	3.31	0.15	0.01	A	1.49	-0.08	-0.01	A	41.35	0.80	0.05	A	1.46	0.40	0.03	A	2.41	-0.20	-0.02	A
3	0.15	0.01	0.00	A	202.27	0.56	0.05	A	37.15	-0.49	-0.04	A	49.95	-0.50	-0.04	A	334.69	-1.95	-0.15	C<	24.68	-1.62	-0.13	C<	4.38	-0.27	-0.02	A
4	14.92	0.18	0.01	A	3.40	-0.09	-0.01	A	1.97	-0.13	-0.01	A	16.13	-0.31	-0.02	A	1.34	0.19	0.01	A	0.46	-0.26	-0.01	A	0.02	0.02	0.00	A
5	25.46	-0.18	-0.02	A	21.56	-0.17	-0.01	A	0.44	0.05	0.00	A	0.60	0.05	0.00	A	0.74	0.09	0.01	A	0.07	-0.08	-0.01	A	0.29	0.07	0.01	A
6	2.78	-0.06	-0.01	A	87.76	-0.35	-0.03	A	0.88	0.07	0.01	A	6.02	-0.17	-0.01	A	0.43	-0.07	-0.01	A	1.59	0.39	0.03	A	1.08	-0.13	-0.01	A
7	315.35	0.92	0.04	A	31.38	-0.29	-0.02	A	14.87	-0.37	-0.02	A	39.40	-0.52	-0.03	A	8.35	0.57	0.01	A	0.58	0.37	0.01	A	2.35	-0.27	-0.01	A
8	163.29	-0.46	-0.04	A	21.74	0.17	0.02	A	1.40	0.09	0.01	A	3.24	0.12	0.01	A	64.64	0.96	0.07	A	5.65	0.73	0.07	A	6.11	0.31	0.03	A
9	12.13	0.13	0.01	A	137.18	-0.43	-0.03	A	0.47	-0.05	0.00	A	16.96	-0.29	-0.02	A	0.29	0.06	0.01	A	18.67	-1.36	-0.12	B<	2.74	0.21	0.02	A
10	10.32	-0.12	-0.01	A	79.85	-0.34	-0.03	A	10.48	0.26	0.02	A	0.29	0.04	0.00	A	12.04	0.42	0.03	A	0.56	0.24	0.02	A	10.59	0.44	0.03	A
11	53.39	-0.35	-0.02	A	6.60	-0.12	-0.01	A	12.24	-0.32	-0.02	A	2.53	0.13	0.01	A	5.85	0.41	0.01	A	4.01	0.88	0.04	A	1.29	-0.19	-0.01	A
12	52.22	-0.35	-0.02	A	93.93	-0.46	-0.03	A	1.57	-0.12	-0.01	A	26.05	-0.40	-0.03	A	0.70	0.14	0.00	A	0.16	-0.17	-0.01	A	0.02	0.02	0.00	A
13	6.53	-0.10	-0.01	A	101.20	-0.39	-0.03	A	1.54	0.10	0.01	A	19.42	-0.31	-0.03	A	10.84	-0.39	-0.03	A	0.78	-0.29	-0.02	A	2.00	0.19	0.01	A
14	89.19	-0.41	-0.03	A	7.90	-0.12	-0.01	A	0.11	0.03	0.00	A	17.49	-0.31	-0.02	A	0.03	-0.02	0.00	A	0.16	0.16	0.01	A	1.86	0.21	0.01	A
15	3.75	-0.08	-0.01	A	61.55	-0.33	-0.02	A	2.95	0.15	0.01	A	2.05	-0.10	-0.01	A	0.00	-0.01	0.00	A	0.00	0.01	0.00	A	0.63	0.12	0.01	A
16	291.19	0.66	0.05	A	99.34	-0.39	-0.03	A	52.37	-0.59	-0.05	A	8.44	0.21	0.02	A	57.27	0.98	0.06	A	1.85	0.45	0.03	A	0.01	-0.01	0.00	A
17	86.44	0.35	0.03	A	40.88	0.24	0.02	A	3.20	0.14	0.01	A	170.24	0.93	0.08	A	38.87	0.78	0.05	A	5.51	0.75	0.06	A	2.08	0.19	0.02	A
18	266.42	0.88	0.03	A	1.63	0.07	0.00	A	4.89	-0.23	-0.01	A	3.11	-0.15	-0.01	A	0.08	0.06	0.00	A	0.42	0.30	0.01	A	0.51	-0.13	-0.01	A
19	0.93	-0.04	0.00	A	124.79	0.42	0.04	A	0.00	0.00	0.00	A	16.67	0.29	0.02	A	24.77	0.54	0.05	A	0.39	0.20	0.02	A	0.23	-0.06	-0.01	A
20	4.05	0.10	0.00	A	4.68	0.10	0.01	A	5.01	0.22	0.01	A	7.58	-0.22	-0.01	A	0.84	0.15	0.01	A	0.78	-0.35	-0.02	A	0.46	0.11	0.01	A
21	143.92	0.73	0.02	A	54.77	0.44	0.02	A	31.66	-0.62	-0.03	A	5.03	0.22	0.01	A	1.43	0.26	0.01	A	1.18	0.62	0.02	A	1.24	-0.23	-0.01	A
22	206.85	0.53	0.04	A	51.36	0.27	0.03	A	14.44	-0.29	-0.03	A	12.16	0.24	0.02	A	0.02	0.01	0.00	A	1.38	-0.37	-0.03	A	0.04	-0.03	0.00	A
23	56.62	-0.29	-0.02	A	116.23	-0.42	-0.03	A	18.84	-0.35	-0.03	A	120.43	-0.78	-0.07	A	128.03	-1.28	-0.09	B<	1.95	-0.47	-0.04	A	0.06	-0.03	0.00	A
24	1.39	-0.05	0.00	A	35.22	-0.24	-0.02	A	10.06	-0.26	-0.02	A	42.00	-0.45	-0.04	A	0.75	0.11	0.01	A	0.00	0.01	0.00	A	0.40	-0.09	-0.01	A
25	198.19	0.67	0.03	A	28.40	0.25	0.01	A	15.47	0.38	0.02	A	51.54	0.60	0.04	A	22.28	0.83	0.03	A	2.87	0.74	0.04	A	0.42	0.11	0.01	A
26	119.96	0.48	0.03	A	31.70	-0.25	-0.02	A	1.13	-0.09	-0.01	A	0.00	0.00	0.00	A	0.76	-0.13	-0.01	A	0.81	-0.32	-0.02	A	1.72	-0.20	-0.01	A
27	60.38	0.30	0.02	A	3.77	0.08	0.01	A	0.28	0.04	0.00	A	0.02	0.01	0.00	A	35.43	0.79	0.05	A	1.30	0.40	0.03	A	0.93	0.13	0.01	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.20
Spring 2012 AIMS Differential Item Functioning Writing CRT Grade 6

	Reference: Male N= 41654 Focal: Female N= 40331				Reference: Hispanic N= 47040 Focal: Non Hispanic N= 35022				Reference: White N= 65932 Focal: Africa American N= 4866				Reference: White N= 65932 Focal: Native American N= 6088				Reference: White N= 65932 Focal: Asian N= 2353				Reference: White N= 65932 Focal: Hawaii N= 259				Reference: White N= 65932 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	469.96	1.00	0.05	A	2.95	0.08	0.01	A	26.17	-0.44	-0.03	A	41.39	0.51	0.04	A	12.91	0.63	0.02	A	0.98	0.45	0.02	A	0.91	0.16	0.01	A
2	31.17	0.44	0.01	A	7.70	0.21	0.00	A	0.21	0.07	0.00	A	7.18	0.35	0.01	A	13.61	-0.95	-0.01	A	0.95	-0.66	-0.01	A	0.84	0.27	0.00	A
3	13.99	0.18	0.01	A	4.20	0.10	0.01	A	0.62	0.07	0.00	A	1.50	0.10	0.01	A	0.40	0.11	0.00	A	0.24	-0.22	-0.01	A	3.34	-0.30	-0.02	A
4	254.55	0.75	0.04	A	16.94	-0.19	-0.01	A	52.09	-0.64	-0.04	A	40.49	0.51	0.04	A	21.41	0.89	0.03	A	0.16	0.18	0.01	A	0.49	-0.11	-0.01	A
5	44.78	0.26	0.02	A	78.75	-0.35	-0.03	A	32.48	0.46	0.04	A	2.84	0.12	0.01	A	8.87	-0.38	-0.02	A	2.17	0.55	0.04	A	2.51	0.22	0.02	A
6	146.33	-0.48	-0.03	A	496.33	-0.88	-0.07	A	1.09	0.08	0.01	A	16.38	-0.30	-0.02	A	5.05	0.30	0.02	A	0.65	-0.29	-0.02	A	1.17	0.15	0.01	A
7	13.68	-0.13	-0.01	A	3.36	0.07	0.01	A	2.90	-0.13	-0.01	A	0.46	-0.05	0.00	A	7.70	-0.30	-0.03	A	0.92	0.30	0.03	A	2.34	-0.19	-0.02	A
8	174.11	0.57	0.03	A	6.28	-0.11	-0.01	A	7.61	-0.24	-0.02	A	1.30	-0.08	-0.01	A	0.86	0.14	0.01	A	0.00	-0.01	0.00	A	0.56	0.11	0.01	A
9	5.36	0.12	0.00	A	14.21	0.19	0.01	A	19.38	-0.42	-0.02	A	50.10	-0.57	-0.04	A	5.61	-0.44	-0.01	A	2.87	-0.77	-0.03	A	0.42	-0.11	-0.01	A
10	16.97	0.20	0.01	A	13.77	-0.18	-0.01	A	0.47	-0.06	0.00	A	0.07	-0.02	0.00	A	9.08	0.55	0.02	A	1.35	0.51	0.02	A	2.85	0.29	0.01	A
11	277.32	-0.65	-0.05	A	0.25	-0.02	0.00	A	2.50	0.13	0.01	A	21.32	-0.32	-0.03	A	48.08	0.98	0.06	A	4.14	0.79	0.05	A	0.08	-0.04	0.00	A
12	1267.91	1.27	0.12	B>	24.68	0.18	0.02	A	1.27	0.09	0.01	A	14.22	0.26	0.02	A	6.84	0.30	0.02	A	0.85	0.31	0.03	A	2.23	-0.18	-0.02	A
13	212.92	-0.53	-0.05	A	0.13	0.01	0.00	A	0.71	0.06	0.01	A	3.70	-0.13	-0.01	A	11.74	-0.38	-0.03	A	0.33	-0.19	-0.02	A	0.02	0.02	0.00	A
14	12.81	0.14	0.01	A	3.37	0.07	0.01	A	0.87	-0.07	-0.01	A	18.59	0.31	0.03	A	28.19	0.75	0.04	A	0.10	0.12	0.01	A	0.28	0.07	0.01	A
15	89.89	0.42	0.02	A	0.12	-0.02	0.00	A	0.05	-0.02	0.00	A	7.09	-0.20	-0.02	A	2.96	0.27	0.01	A	0.21	0.19	0.01	A	0.07	0.04	0.00	A
16	1.01	-0.04	0.00	A	5.14	0.09	0.01	A	1.04	-0.08	-0.01	A	14.45	-0.26	-0.02	A	2.48	0.20	0.01	A	0.64	-0.27	-0.02	A	0.05	-0.03	0.00	A
17	165.68	-0.54	-0.04	A	54.95	-0.31	-0.02	A	2.89	-0.14	-0.01	A	0.02	-0.01	0.00	A	1.97	0.20	0.01	A	0.01	-0.03	0.00	A	1.15	0.16	0.01	A
18	58.54	0.29	0.02	A	28.97	-0.21	-0.02	A	1.51	0.10	0.01	A	0.42	-0.04	0.00	A	0.30	0.07	0.00	A	2.08	-0.47	-0.04	A	2.43	0.21	0.02	A
19	36.37	0.32	0.01	A	0.06	0.01	0.00	A	0.74	0.09	0.00	A	1.84	-0.11	-0.01	A	0.40	0.13	0.00	A	0.35	-0.27	-0.01	A	0.21	0.09	0.00	A
20	21.71	-0.20	-0.01	A	21.14	0.20	0.01	A	4.35	-0.18	-0.01	A	18.03	-0.31	-0.02	A	8.17	-0.41	-0.02	A	0.65	-0.30	-0.02	A	5.90	-0.37	-0.02	A
21	6.07	-0.10	0.00	A	49.25	-0.29	-0.02	A	0.32	-0.05	0.00	A	15.83	-0.34	-0.02	A	55.26	0.81	0.07	A	0.09	-0.10	-0.01	A	0.08	-0.04	0.00	A
22	85.48	-0.34	-0.03	A	8.10	-0.10	-0.01	A	0.04	0.01	0.00	A	44.20	-0.46	-0.04	A	6.26	0.28	0.02	A	6.65	-0.79	-0.07	A	1.51	-0.15	-0.01	A
23	2.52	-0.07	0.00	A	232.23	-0.63	-0.05	A	2.58	-0.14	-0.01	A	67.45	-0.61	-0.05	A	3.97	-0.28	-0.01	A	0.94	-0.37	-0.02	A	1.07	0.15	0.01	A
24	11.79	0.12	0.01	A	18.44	0.16	0.02	A	10.74	-0.25	-0.02	A	4.61	-0.15	-0.01	A	39.63	-0.68	-0.06	A	0.16	-0.12	-0.01	A	2.24	0.18	0.02	A
25	0.39	0.03	0.00	A	0.94	-0.04	0.00	A	2.51	-0.13	-0.01	A	58.18	-0.55	-0.05	A	49.97	-0.88	-0.05	A	0.97	-0.36	-0.02	A	0.20	-0.06	0.00	A
26	151.56	0.66	0.02	A	2.67	-0.09	0.00	A	71.34	-0.81	-0.04	A	5.81	0.21	0.01	A	15.46	0.88	0.02	A	0.12	0.18	0.01	A	0.76	0.17	0.01	A
27	29.69	0.22	0.01	A	86.91	0.37	0.03	A	1.39	0.10	0.01	A	6.91	0.19	0.02	A	1.18	0.14	0.01	A	0.00	0.01	0.00	A	5.45	-0.32	-0.02	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.21
Spring 2012 AIMS Differential Item Functioning Writing CRT Grade 7

	Reference: Male N= 41591 Focal: Female N= 39808				Reference: Hispanic N= 46857 Focal: Non Hispanic N= 34645				Reference: White N= 65489 Focal: Africa American N= 4646				Reference: White N= 65489 Focal: Native American N= 6091				Reference: White N= 65489 Focal: Asian N= 2313				Reference: White N= 65489 Focal: Hawaii N= 270				Reference: White N= 65489 Focal: Multiple Indicator N= 17			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	182.50	0.50	0.04	A	1.69	0.05	0.00	A	0.08	-0.02	0.00	A	8.91	-0.20	-0.02	A	0.58	0.09	0.01	A	4.33	0.69	0.06	A	2.62	0.21	0.02	A
2	479.87	-0.80	-0.07	A	32.53	0.21	0.02	A	6.40	-0.20	-0.02	A	4.79	0.15	0.01	A	0.13	0.04	0.00	A	4.98	-0.74	-0.06	A	0.91	-0.12	-0.01	A
3	540.45	0.92	0.07	A	9.75	0.12	0.01	A	0.18	0.04	0.00	A	5.38	0.16	0.01	A	39.72	0.92	0.05	A	0.08	-0.09	-0.01	A	0.08	-0.04	0.00	A
4	9.99	-0.14	-0.01	A	2.50	-0.07	-0.01	A	5.46	0.21	0.01	A	22.67	-0.35	-0.03	A	1.38	-0.17	-0.01	A	0.19	0.16	0.01	A	0.12	-0.05	0.00	A
5	9.16	-0.11	-0.01	A	26.86	-0.19	-0.02	A	2.41	0.12	0.01	A	32.27	-0.38	-0.04	A	0.12	0.04	0.00	A	1.67	-0.40	-0.04	A	0.16	0.05	0.00	A
6	0.01	0.00	0.00	A	45.69	-0.34	-0.02	A	3.50	0.19	0.01	A	51.39	-0.58	-0.04	A	1.69	-0.25	-0.01	A	0.59	-0.33	-0.02	A	0.32	-0.10	0.00	A
7	31.71	-0.25	-0.01	A	30.19	-0.24	-0.02	A	6.55	-0.23	-0.02	A	14.92	-0.29	-0.02	A	1.70	-0.21	-0.01	A	2.15	-0.54	-0.03	A	0.09	0.05	0.00	A
8	22.47	0.19	0.01	A	12.54	0.15	0.01	A	3.36	-0.15	-0.01	A	11.89	0.25	0.02	A	0.42	-0.08	-0.01	A	0.29	-0.16	-0.01	A	0.94	0.14	0.01	A
9	62.38	0.38	0.02	A	0.53	-0.03	0.00	A	17.77	-0.39	-0.02	A	20.44	0.37	0.02	A	4.43	0.37	0.01	A	6.65	1.13	0.06	B>	8.64	-0.46	-0.02	A
10	153.04	0.61	0.03	A	41.29	0.31	0.02	A	0.11	0.03	0.00	A	3.40	0.15	0.01	A	0.12	-0.06	0.00	A	0.05	-0.09	0.00	A	0.03	-0.03	0.00	A
11	38.32	0.31	0.01	A	0.18	-0.02	0.00	A	0.25	0.05	0.00	A	8.44	-0.23	-0.02	A	4.64	-0.38	-0.01	A	3.24	-0.72	-0.04	A	2.12	-0.25	-0.01	A
12	345.91	0.80	0.05	A	12.80	0.15	0.01	A	0.23	-0.04	0.00	A	0.00	-0.01	0.00	A	3.63	-0.28	-0.01	A	0.07	0.10	0.01	A	0.27	0.08	0.00	A
13	28.10	-0.26	-0.01	A	20.27	-0.22	-0.01	A	5.95	0.24	0.01	A	54.10	-0.58	-0.04	A	2.15	-0.25	-0.01	A	0.32	-0.24	-0.01	A	1.68	0.23	0.01	A
14	1.24	0.06	0.00	A	19.42	0.22	0.01	A	4.45	-0.20	-0.01	A	20.61	-0.36	-0.02	A	1.09	0.19	0.01	A	0.41	-0.26	-0.01	A	1.22	-0.18	-0.01	A
15	6.27	-0.09	-0.01	A	71.16	-0.32	-0.03	A	1.89	-0.11	-0.01	A	13.23	-0.25	-0.02	A	2.75	0.21	0.01	A	0.14	0.12	0.01	A	1.78	0.17	0.01	A
16	3.66	-0.08	-0.01	A	46.94	-0.29	-0.02	A	0.11	-0.03	0.00	A	21.89	0.35	0.03	A	0.76	-0.13	-0.01	A	0.06	0.09	0.01	A	1.90	0.21	0.01	A
17	314.69	1.05	0.03	B>	30.24	0.32	0.01	A	2.90	-0.19	-0.01	A	0.49	0.06	0.00	A	6.70	-0.56	-0.01	A	0.02	0.06	0.00	A	0.08	-0.06	0.00	A
18	297.40	-0.65	-0.05	A	57.57	-0.29	-0.03	A	3.79	0.15	0.01	A	33.12	-0.40	-0.04	A	5.33	0.29	0.02	A	0.13	-0.11	-0.01	A	15.43	-0.51	-0.04	A
19	38.45	-0.26	-0.02	A	226.68	-0.62	-0.04	A	4.48	0.18	0.01	A	0.13	0.03	0.00	A	6.75	0.37	0.02	A	0.03	-0.06	0.00	A	4.58	0.31	0.02	A
20	0.65	0.03	0.00	A	6.33	-0.09	-0.01	A	1.10	0.08	0.01	A	0.00	0.00	0.00	A	4.33	0.23	0.02	A	0.23	0.15	0.01	A	0.12	-0.04	0.00	A
21	11.20	0.14	0.01	A	36.34	-0.25	-0.02	A	2.47	-0.13	-0.01	A	7.73	-0.20	-0.02	A	1.66	0.18	0.01	A	1.09	0.37	0.03	A	3.45	-0.26	-0.02	A
22	307.47	0.68	0.06	A	8.50	-0.11	-0.01	A	4.99	0.18	0.01	A	1.84	-0.10	-0.01	A	46.82	0.92	0.06	A	0.18	0.14	0.01	A	0.11	0.04	0.00	A
23	49.61	0.31	0.02	A	0.15	0.02	0.00	A	4.53	-0.19	-0.01	A	9.01	0.22	0.02	A	9.34	0.50	0.02	A	3.12	0.68	0.04	A	0.52	0.11	0.01	A
24	620.64	1.54	0.04	C>	49.46	0.41	0.02	A	18.63	-0.48	-0.02	A	22.30	0.46	0.02	A	0.83	0.21	0.00	A	1.44	0.63	0.02	A	0.01	-0.02	0.00	A
25	34.00	-0.22	-0.02	A	58.71	-0.29	-0.02	A	12.34	-0.28	-0.02	A	3.90	-0.14	-0.01	A	3.18	0.20	0.02	A	0.21	0.14	0.01	A	0.91	0.12	0.01	A
26	170.69	0.60	0.03	A	4.76	0.10	0.01	A	0.00	0.00	0.00	A	0.98	0.08	0.01	A	0.03	-0.03	0.00	A	0.03	-0.06	0.00	A	0.20	0.07	0.00	A
27	87.07	0.46	0.02	A	13.64	0.18	0.01	A	14.21	-0.36	-0.02	A	0.82	-0.07	0.00	A	9.36	0.58	0.02	A	0.10	0.13	0.01	A	4.13	-0.35	-0.02	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.22
Spring 2012 AIMS Differential Item Functioning Writing CRT High School

	Reference: Male N= 38468 Focal: Female N= 38046				Reference: Hispanic N= 45956 Focal: Non Hispanic N= 30670				Reference: White N= 62034 Focal: Africa American N= 4530				Reference: White N= 62034 Focal: Native American N= 4567				Reference: White N= 62034 Focal: Asian N= 2293				Reference: White N= 62034 Focal: Hawaii N= 226				Reference: White N= 62034 Focal: Multiple Indicator N= 14			
Item	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag	MH χ2	ΔMH	SMD	Flag
1	42.25	0.29	0.02	A	14.97	0.18	0.01	A	0.78	0.08	0.01	A	27.57	-0.44	-0.04	A	13.15	0.56	0.03	A	0.68	0.34	0.02	A	0.37	-0.10	-0.01	A
2	72.76	-0.36	-0.03	A	3.43	0.08	0.01	A	0.51	0.06	0.00	A	2.47	-0.13	-0.01	A	0.00	0.00	0.00	A	0.03	-0.06	0.00	A	0.04	-0.03	0.00	A
3	50.56	0.26	0.03	A	248.00	0.59	0.06	A	8.40	-0.22	-0.02	A	8.26	0.22	0.02	A	7.61	-0.30	-0.03	A	3.60	-0.62	-0.06	A	0.38	-0.08	-0.01	A
4	1.82	-0.05	0.00	A	78.12	0.32	0.03	A	0.00	0.01	0.00	A	48.99	0.52	0.05	A	6.90	0.27	0.03	A	1.18	0.35	0.04	A	0.00	0.00	0.00	A
5	69.23	0.45	0.02	A	2.71	0.09	0.00	A	9.91	-0.33	-0.02	A	13.08	0.37	0.02	A	1.46	0.23	0.01	A	0.67	0.38	0.02	A	0.00	-0.01	0.00	A
6	67.56	-0.37	-0.02	A	2.29	-0.07	-0.01	A	9.11	0.28	0.02	A	0.44	0.06	0.00	A	27.54	-0.73	-0.04	A	0.48	0.28	0.02	A	3.79	0.33	0.02	A
7	58.32	-0.30	-0.02	A	193.03	-0.55	-0.05	A	8.08	-0.23	-0.02	A	14.44	-0.31	-0.03	A	28.87	0.69	0.05	A	1.90	0.49	0.04	A	1.27	0.16	0.01	A
8	127.23	0.43	0.04	A	42.81	-0.26	-0.02	A	3.11	0.14	0.01	A	21.21	0.37	0.03	A	112.22	1.33	0.10	B>	6.28	0.88	0.07	A	8.02	0.39	0.03	A
9	189.29	0.55	0.05	A	16.09	-0.17	-0.01	A	0.72	0.07	0.01	A	16.99	-0.37	-0.02	A	140.75	1.38	0.11	B>	0.01	-0.04	0.00	A	0.69	0.12	0.01	A
10	26.50	0.20	0.02	A	24.09	-0.19	-0.02	A	0.24	-0.04	0.00	A	9.82	-0.25	-0.02	A	5.77	0.29	0.02	A	2.46	-0.53	-0.05	A	0.67	-0.12	-0.01	A
11	2.75	0.06	0.00	A	0.15	0.01	0.00	A	2.07	0.11	0.01	A	0.91	-0.08	-0.01	A	24.95	0.56	0.05	A	1.72	0.44	0.04	A	0.36	-0.08	-0.01	A
12	20.03	-0.22	-0.01	A	0.74	-0.04	0.00	A	63.03	-0.74	-0.05	A	48.32	-0.61	-0.04	A	31.26	-0.84	-0.04	A	13.00	-1.38	-0.09	B<	0.56	-0.14	-0.01	A
13	68.61	0.35	0.02	A	4.51	-0.09	-0.01	A	0.01	-0.01	0.00	A	2.38	-0.13	-0.01	A	63.98	-1.00	-0.06	A	1.45	-0.43	-0.03	A	2.20	0.24	0.02	A
14	100.48	0.51	0.02	A	33.67	0.30	0.02	A	0.42	-0.07	0.00	A	11.52	-0.31	-0.02	A	10.94	-0.56	-0.02	A	0.10	-0.14	-0.01	A	0.53	-0.14	-0.01	A
15	8.26	-0.11	-0.01	A	41.36	0.25	0.02	A	45.62	-0.51	-0.05	A	0.06	0.02	0.00	A	27.20	-0.57	-0.05	A	2.34	-0.52	-0.05	A	0.21	-0.06	-0.01	A
16	33.72	-0.22	-0.02	A	257.77	-0.61	-0.05	A	4.78	0.17	0.02	A	71.25	-0.65	-0.06	A	7.47	-0.31	-0.03	A	1.09	-0.37	-0.03	A	0.88	-0.13	-0.01	A
17	102.04	0.53	0.02	A	6.53	-0.13	-0.01	A	0.15	-0.04	0.00	A	7.20	0.26	0.02	A	26.22	-0.84	-0.03	A	10.61	-1.28	-0.08	B<	0.41	-0.13	-0.01	A
18	0.30	0.03	0.00	A	85.08	-0.44	-0.03	A	13.81	-0.34	-0.02	A	0.05	-0.02	0.00	A	21.97	-0.69	-0.03	A	5.18	-0.88	-0.06	A	0.21	0.08	0.00	A
19	81.48	0.55	0.02	A	47.62	0.44	0.02	A	4.85	-0.27	-0.01	A	4.68	-0.25	-0.01	A	85.89	-1.42	-0.05	B<	0.00	0.02	0.00	A	0.34	-0.13	0.00	A
20	33.00	0.32	0.01	A	2.62	0.09	0.00	A	10.81	-0.35	-0.02	A	0.18	0.04	0.00	A	0.01	-0.02	0.00	A	0.52	0.35	0.02	A	0.47	0.15	0.01	A
21	232.83	-0.74	-0.04	A	33.52	-0.28	-0.02	A	10.58	-0.31	-0.02	A	60.90	-0.70	-0.05	A	26.93	-0.72	-0.04	A	4.88	-0.85	-0.06	A	0.09	-0.05	0.00	A
22	361.69	-0.74	-0.06	A	300.57	-0.68	-0.06	A	10.27	0.25	0.02	A	146.61	-1.04	-0.08	B<	4.68	0.25	0.02	A	0.06	-0.09	-0.01	A	4.10	-0.29	-0.02	A
23	111.36	0.46	0.03	A	0.38	0.03	0.01	A	61.26	-0.66	-0.05	A	6.11	0.21	0.02	A	4.49	0.32	0.02	A	3.73	0.74	0.05	A	0.30	-0.09	-0.01	A
24	346.11	0.74	0.06	A	6.81	0.11	0.01	A	8.44	-0.24	-0.02	A	6.93	0.21	0.02	A	0.33	0.07	0.00	A	0.33	0.20	0.02	A	0.02	-0.02	0.00	A
25	0.99	-0.04	0.00	A	48.42	-0.29	-0.03	A	3.68	0.16	0.01	A	3.33	0.15	0.01	A	0.17	0.05	0.00	A	2.84	0.60	0.05	A	1.14	0.17	0.01	A
26	196.61	0.62	0.04	A	39.17	-0.28	-0.02	A	23.18	0.44	0.03	A	27.67	-0.46	-0.04	A	4.94	0.35	0.02	A	1.86	-0.53	-0.04	A	0.10	0.05	0.00	A
27	15.98	-0.14	-0.01	A	14.04	-0.14	-0.01	A	1.48	-0.09	-0.01	A	4.89	-0.17	-0.02	A	0.29	0.06	0.01	A	1.94	-0.47	-0.04	A	4.24	0.27	0.03	A

Note: African Am. = African American, Native Am. = Native American, MH χ2 = Mantel-Haenszel Chi-Square, MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A=No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

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Table 9.2.1.23
DIF Statistics for Items Exhibiting Strong DIF

Content	Grade	Item #	Item Type	In favor of / Against	Group	MH Delta	MH SMD
Mathematics	3	12	MC	In favor of	Asian	46.78	1.51	0.04
Mathematics	6	13	MC	Against	Female	1324.45	-1.52	-0.10
Mathematics	HS	62	MC	Against	Female	1544.81	-1.85	-0.11
Reading	8	7	MC	Against	Female	1843.69	-1.73	-0.13
Reading	8	7	MC	Against	Hispanic	1642.88	-1.60	-0.13
Reading	HS	6	MC	Against	Asian	109.65	-2.23	-0.04
Science	8	6	MC	Against	Female	917.29	-1.87	-0.06
Science	8	5	MC	Against	African	305.68	-1.57	-0.09
Science	8	4	MC	Against	Asian	45.80	-1.81	-0.02
Writing	5	3	MC	Against	Asian	334.69	-1.95	-0.15
Writing	5	3	MC	Against	Hawaii	24.68	-1.62	-0.13
Writing	7	24	MC	In favor of	Female	620.64	1.54	0.04

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9.2.2 Correlations among AIMS Assessments

Correlations were examined between scale scores on Spring 2012 AIMS tests by grade level. Note that data used for the calculation of correlation included records with valid scale scores in all content areas and tests in each grade level. Sample sizes are therefore slightly lower than presented in other parts of this technical report.

In addition, because students in high school had different testing windows for the reading, writing, mathematics, and science tests, data merging was necessary to match reading and writing records with mathematics and science records. Once valid records were selected for each of the high school content areas and records with duplicate student identification numbers were removed, data was merged based on student identification number. Table 9.2.2.1 presents the resulting reduction in N size for each grade level. Scale score means and distributions prior to and after the merge were compared to ensure that the match did not substantially alter the data. Only slight changes in mean and standard deviation occurred after the merge, and density plots illustrated that the shape of the distribution prior to and after merging matched reasonably well. Therefore, correlations presented for the high school reading, writing, and mathematics and science are based on the matched data, with a total N size of 50,595.

All correlations are presented in Tables 9.2.2.2 through 9.2.2.8. The patterns of correlation presented in the tables are consistent with expectations given the constructs measured. Correlations were consistently high between tests designed to measure the same or very similar constructs (i.e., CRT math and NRT math or CRT reading and NRT reading). Correlations were much lower between tests designed to measure dissimilar constructs such as math and writing.

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Table 9.2.2.1
Spring 2012 Matched N Counts for Correlations Calculations

Grade	N Count
3	82888
4	81765
5	81199
6	81323
7	80905
8	79837
HS	50595

Table 9.2.2.2
Spring 2012 AIMS Correlations among Assessments
Grade 3

Test	1	2	3	4	5
1.RD CRT	1.00	0.82	0.90	0.79	0.78
2.MA CRT	0.82	1.00	0.75	0.74	0.89
3.RD NRT	0.90	0.75	1.00	0.74	0.72
4.LA NRT	0.79	0.74	0.74	1.00	0.71
5.MA NRT	0.78	0.89	0.72	0.71	1.00

Note: N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some, but not all, content areas. The N count for this table is 82,888.

Table 9.2.2.3
Spring 2012 AIMS Correlations among Assessments
Grade 4

Test	1	2	3	4	5	6
1.RD CRT	1.00	0.79	0.90	0.78	0.76	0.81
2.MA CRT	0.79	1.00	0.74	0.72	0.91	0.76
3.RD NRT	0.90	0.74	1.00	0.73	0.72	0.76
4.LA NRT	0.78	0.72	0.73	1.00	0.71	0.70
5.MA NRT	0.76	0.91	0.72	0.71	1.00	0.73
6.SC	0.81	0.76	0.76	0.70	0.73	1.00

Note: N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some, but not all, content areas. The N count for this table is 81,765.

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Table 9.2.2.4
Spring 2012 AIMS Correlations among Assessments
Grade 5

Test	1	2	3	4	5	6
1.RD CRT	1.00	0.74	0.77	0.88	0.79	0.72
2.WR CRT	0.74	1.00	0.68	0.68	0.75	0.64
3.MA CRT	0.77	0.68	1.00	0.71	0.72	0.91
4.RD NRT	0.88	0.68	0.71	1.00	0.73	0.66
5.LA NRT	0.79	0.75	0.72	0.73	1.00	0.68
6.MA NRT	0.72	0.64	0.91	0.66	0.68	1.00

Note: N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some, but not all, content areas. The N count for this table is 81,199.

Table 9.2.2.5
Spring 2012 AIMS Correlations among Assessments
Grade 6

Test	1	2	3	4	5	6
1.RD CRT	1.00	0.74	0.78	0.88	0.77	0.73
2.WR CRT	0.74	1.00	0.68	0.67	0.73	0.64
3.MA CRT	0.78	0.68	1.00	0.69	0.73	0.92
4.RD NRT	0.88	0.67	0.69	1.00	0.70	0.65
5.LA NRT	0.77	0.73	0.73	0.70	1.00	0.69
6.MA NRT	0.73	0.64	0.92	0.65	0.69	1.00

Note: N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some, but not all, content areas. The N count for this table is 81,323.

Table 9.2.2.6
Spring 2012 AIMS Correlations among Assessments
Grade 7

Test	1	2	3	4	5	6
1.RD CRT	1.00	0.73	0.78	0.88	0.77	0.74
2.WR CRT	0.73	1.00	0.70	0.67	0.72	0.66
3.MA CRT	0.78	0.70	1.00	0.73	0.73	0.92
4.RD NRT	0.88	0.67	0.73	1.00	0.71	0.69
5.LA NRT	0.77	0.72	0.73	0.71	1.00	0.70
6.MA NRT	0.74	0.66	0.92	0.69	0.70	1.00

Note: N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some, but not all, content areas. The N count for this table is 80,905.

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Table 9.2.2.7
Spring 2012 AIMS Correlations among Assessments
Grade 8

Test	1	2	3	4	5	6
1.RD CRT	1.00	0.77	0.85	0.74	0.73	0.81
2.MA CRT	0.77	1.00	0.70	0.68	0.92	0.79
3.RD NRT	0.85	0.70	1.00	0.67	0.66	0.74
4.LA NRT	0.74	0.68	0.67	1.00	0.65	0.71
5.MA NRT	0.73	0.92	0.66	0.65	1.00	0.75
6.SC	0.81	0.79	0.74	0.71	0.75	1.00

Note: N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some, but not all, content areas. The N count for this table is 79,837.

Table 9.2.2.8
Spring 2012 AIMS Correlations among Assessments
High School

Test	1	2	3	4
1.RD CRT	1.00	0.75	0.72	0.78
2.WR CRT	0.75	1.00	0.68	0.70
3.MA CRT	0.72	0.68	1.00	0.77
4.SC	0.78	0.70	0.77	1.00

Note: N size will be less than presented in other parts of this Technical Report due to 1) missing or invalid test records in some, but not all, content areas and 2) matching Reading, Writing, Mathematics, and Science records according to student identification number. The N-count for this table is 50,595.

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PART 10: CLASSIFICATION

Part 10 of this technical report provides information regarding classifying students into proficiency categories. The following AERA/APA/NCME standards are covered in this part: 1.5, 1.7, 2.14, 2.15, 4.9, 4.19, 4.20, 4.21, and 6.5.

Scores from the 2012 Spring AIMS assessments are used to classify students into one of four performance categories: *Falls Far Below the Standard*, *Approaches the Standard*, *Meets the Standard*, and *Exceeds the Standard*. This part of the technical report provides information regarding classifying students into these four performance categories. Arizona educators made recommendations for cut scores for each category in the standard setting workshops. Analyses were conducted to examine the consistency and accuracy with which students were assigned to performance categories.

10.1 Standard Setting Technical Documentation

Standard setting for the AIMS CRT Reading tests was conducted in early May 2005, using the bookmark standard setting procedure. All technical documentation regarding the standard setting is available in the bookmark standard setting technical report, available from the ADE.

Standard setting for the AIMS Science tests was conducted in early June, 2008, using the bookmark standard setting procedure. All technical documentation regarding the standard setting is available in the bookmark standard setting technical report, available from the ADE.

Standard setting for the AIMS Mathematics tests was conducted in May and June, 2010, using the bookmark standard setting procedure. All technical documentation regarding the standard setting is available in the bookmark standard setting technical report, available on the ADE website.

Standard setting for the AIMS Writing tests was conducted in May and June, 2011, using a modified bookmark standard setting procedure. All technical documentation regarding the standard setting is available in the bookmark standard setting technical report, available on the ADE website.

The scale score ranges for each of the four performance level categories for the AIMS CRT tests are presented below in Table 10.1.1.

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Table 10.1.1
Spring 2012 AIMS
Final Scale Score Ranges by Performance Level

Test		FFBS	AS	MS	ES
Mathematics					
	3	205-301	304-345	348-401	406-540
	4	153-329	332-364	368-414	418-560
	5	241-346	349-379	382-432	437-580
	6	275-363	366-397	400-442	446-600
	7	277-380	383-410	413-456	460-620
	8	213-408	411-425	428-470	475-640
	HS	300-470	472-486	488-535	539-700
Reading					
	3	303-375	379-428	431-509	517-640
	4	336-401	405-449	452-530	538-660
	5	348-423	427-466	470-549	557-675
	6	293-429	433-475	478-564	572-690
	7	371-440	445-488	492-585	593-720
	8	270-451	456-498	502-597	609-800
	HS	500-626	631-673	677-766	773-900
Writing					
	5	300-437	440-491	494-599	609-700
	6	300-448	451-490	494-575	584-700
	7	315-449	452-492	496-588	598-700
	HS	300-431	433-479	480-586	588-700
Science					
	4	335-461	465-495	500-541	547-800
	8	352-472	476-495	500-531	536-800
	HS	200-471	475-499	504-534	540-800

Note: FFBS = Falls Far Below the Standard; AS = Approaches the Standard; MS = Meets the Standard; ES = Exceeds the Standard

10.2 Classification Consistency and Accuracy

This section describes the analyses conducted to estimate classification consistency and accuracy for the 2012 AIMS 3-8 and high school test administrations. Classification consistency can be defined as the agreement between examinees' performance category classification from two independent administrations of the same test (or two parallel forms of the test). Classification accuracy can be defined as the agreement between the actual classifications using observed cut scores and true classifications based on known true cut scores (Livingston & Lewis, 1995).

In conjunction with internal consistency, classification consistency is an important type of reliability and is particularly relevant to high-stakes pass/fail tests such as the AIMS high school tests. As a form of reliability, classification consistency represents how reliably students can be classified into performance categories. Please see Part 9 of this report for more information on the internal consistency of the AIMS assessments.

For tests such as the AIMS high school assessments, classification consistency is most important for students whose ability is near the pass/fail cut score. Students whose ability is far above or far

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below the value established for passing are unlikely to be misclassified because repeated administration of the test will nearly always result in the same classification. Examinees whose true scores are close to the cut score are a more serious concern. These students' true scores will likely lie within the standard error of measurement of the cut score. For this reason, the measurement error at the cut scores should be considered when evaluating the classification consistency of a test. For convenience, the cut scores and their associated standard errors are presented in Table 10.2.3.1. Furthermore, the number of students near the cut scores should also be considered when evaluating classification consistency; these numbers show the number of students who are most likely to be misclassified. The number of students near the cut scores for each grade and content area can be found in the state scale score frequency distributions presented in Part 8 of this report.

Classification consistency and accuracy were estimated using the IRT procedure suggested by Lee, Hanson, and Brennan (2002) and Wang, Kolen, and Harris (2000) for the AIMS assessments in reading, mathematics, and science. For the AIMS assessment for writing, procedures described by Livingston and Lewis (1995) were used to estimate classification consistency and accuracy. The following description of classification consistency and accuracy is based on the paper by Lee et al. (2002).

10.2.1 Classification Consistency

Assume that θ is a single latent trait measured by a test and denote Φ as a latent random variable. When a test X consists of K items and its maximum number-correct score is N, the marginal probability of the number-correct (NC) score *x* is:

$$P(X = x) = \int P(X = x \mid \Phi = \theta) g(\theta) d\theta, \qquad x = 0,1,..., N.,$$

where $g(\theta)$ is the density of θ.

In this report, the marginal distribution $P(X = x)$ is denoted as $f(x)$, and the conditional error distribution $P(X = x \mid \Phi = \theta)$ is denoted as $f(x \mid \theta)$. It is assumed that examinees are classified into one of H mutually exclusive categories on the basis of predetermined H-1 observed score cutoffs, $C_1, C_2, \ldots, C_{H-1}$. Let L_h represent the hth category into which examinees with $C_{h-1} \le X \le C_h$ are classified. $C_0 = 0$ and $C_H =$ the maximum number-correct score. Then, the conditional and marginal probabilities of each category classification are as follows:

$$P(X \in L_h \mid \theta) = \sum_{x=C_{h-1}}^{C_{h-1}} f(x \mid \theta), \quad h = 1, 2, \ldots, \text{H}.$$

$$P(X \in L_h) = \int \sum_{x=C_{h-1}}^{C_{h-1}} f(x \mid \theta) g(\theta) d\theta, \quad h = 1, 2, \ldots, \text{H}.$$

Because obtaining test scores from two independent administrations of AIMS was not feasible due to security, logistic, and cost constraints, a psychometric model was used to obtain the estimated classification consistency indices using test scores from a single administration. Based on the psychometric model, a symmetric H*H contingency table can be constructed. The elements of H*H

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contingency table consist of the joint probabilities of the row and column observed category classifications.

That two administrations are independent implies that if X_1 and X_2 represent the raw score random variables on the two administrations, then, conditioned on θ, X_1 and X_2 are independent and identically distributed. Consequently, the conditional bivariate distribution of X_1 and X_2 is:

$$f(x_1,\ x_2 \mid \theta) = f(x_1 \mid \theta) f(x_2 \mid \theta).$$

The marginal bivariate distribution of X_1 and X_2 can be expressed as follows:

$$f(x_1,\ x_2) = \int f(x_1, x_2 \mid \theta) f(\theta) d\theta.$$

Consistent classification means that both X_1 and X_2 fall in the same category. The conditional probability of falling in the same category on the two administrations is:

$$P(X_1 \in L_h,\ X_2 \in L_h \mid \theta) = \left[\sum_{x_1 = C_{h-1}}^{C_{h-1}} f(x_1 \mid \theta) \right]^2,$$

$$h = 1, 2, \ldots, \mathrm{H}.$$

The agreement index P, conditional on theta, is obtained by:

$$P(\theta) = \sum_{h=1}^{H} P(X_1 \in L_h,\ X_2 \in L_h \mid \theta).$$

The agreement index (classification consistency) can be computed as:

$$P = \int P(\theta) g(\theta) d(\theta).$$

The probability of consistent classification by chance, P_C, is the sum of squared marginal probabilities of each category classification:

$$P_C = \sum_{h=1}^{H} P(X_1 \in L_h) P(X_2 \in L_h) = \sum_{h=1}^{H} \left[P(X_1 \in L_h) \right]^2.$$

Then, the coefficient kappa (Cohen, 1960) is:

$$k = \frac{P - P_C}{1 - P_C}$$

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10.2.2 Classification Accuracy

Let Γ_w denote true category. When an examinee has an observed score, $x \in L_h$ (h =1, 2,…, H), and a latent score , $\theta \in \Gamma_w$ (w=1, 2,…, H), an accurate classification is made when $h = w$. The conditional probability of accurate classification is

$$\gamma(\theta) = P(X \in L_w \mid \theta),$$

where w is the category such that $\theta \in \Gamma_w$.

10.2.3 Classification Consistency and Accuracy Results

For convenience, the cut scores and their associated standard errors are presented in Table 10.2.3.1. Table 10.2.3.2 presents results from the classification consistency and classification accuracy analyses. These results are for classifying students into four performance levels. Included in the table for each grade and content area are case counts (N), classification consistency (Agreement), classification inconsistency (Inconsistency), probability of consistent classification by chance (Chance), Cohen's Kappa (Kappa), and classification accuracy (Accuracy). Inconsistency is defined as 1-agreement.

The 2012 AIMS classification consistency and accuracy results are consistent with classification analyses from the previous AIMS administration. It is important to note that the classification results are dependent on the number of cut scores maintained in a testing program. Moreover, the acceptability of the classification results should be evaluated with respect to the associated stakes of the testing program. The results for the AIMS assessments are quite consistent with other testing programs with similar structure and purpose.

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Table 10.2.3.1
Spring 2012 AIMS
Standard Error of Measurement at Cut Scores

Test		AS		MS		ES	
		Cut Score	SEM	Cut Score	SEM	Cut Score	SEM
Mathematics							
	3	303	12	347	12	406	15
	4	331	11	366	11	416	14
	5	348	11	381	11	436	14
	6	366	11	398	11	446	13
	7	382	11	411	11	460	14
	8	409	11	426	11	475	14
	HS	471	10	487	10	537	12
Reading							
	3	379	13	431	12	516	18
	4	402	12	450	11	536	18
	5	424	13	468	12	556	18
	6	433	13	478	12	571	18
	7	443	14	489	13	587	18
	8	452	15	499	15	602	25
	HS	627	14	674	13	773	18
Writing							
	5	439	10	494	10	601	17
	6	449	10	493	11	581	16
	7	450	9	495	10	595	17
	HS	433	9	480	9	587	12
Science							
	4	462	14	500	15	547	18
	8	473	14	500	14	532	15
	HS	475	14	500	15	537	18

Note: FFBS = Falls Far Below the Standard; AS = Approaches the Standard; MS = Meets the Standard; ES = Exceeds the Standard

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Table 10.2.3.2
Spring 2012 AIMS
Classification Consistency and Accuracy

Test		N	Agreement	Inconsistency	Chance	Kappa	Accuracy
Mathematics							
	3	82905	0.76	0.24	0.30	0.66	0.83
	4	81924	0.75	0.25	0.28	0.65	0.82
	5	82386	0.75	0.25	0.28	0.65	0.82
	6	81982	0.75	0.25	0.26	0.66	0.82
	7	81501	0.75	0.25	0.27	0.66	0.82
	8	79958	0.74	0.26	0.27	0.65	0.81
	HS	106651	0.77	0.23	0.28	0.68	0.83
Reading							
	3	82909	0.79	0.21	0.41	0.64	0.85
	4	81933	0.80	0.20	0.43	0.64	0.85
	5	82383	0.79	0.21	0.45	0.61	0.85
	6	82027	0.80	0.20	0.48	0.61	0.86
	7	81527	0.81	0.19	0.52	0.60	0.86
	8	79961	0.78	0.22	0.45	0.60	0.84
	HS	94693	0.80	0.20	0.48	0.61	0.85
Writing							
	5	81235	0.78	0.22	0.41	0.63	0.85
	6	81377	0.74	0.26	0.35	0.59	0.81
	7	80937	0.75	0.25	0.37	0.61	0.83
	HS-A	97478	0.78	0.22	0.43	0.62	0.85
	HS-T	3092	0.77	0.23	0.37	0.63	0.83
Science							
	4	81892	0.70	0.30	0.27	0.59	0.78
	8	80019	0.69	0.31	0.29	0.57	0.77
	HS	74486	0.73	0.27	0.29	0.62	0.80

Note: High school results include students in all cohorts. Results for Reading, Mathematics, and Science were computed with the IRT method suggested by Lee, Hanson and Brennan (2002) and Wang, Kolen and Harris (2000). Results for Writing were computed using the Livingston-Lewis procedure (1995), implemented with BB-CLASS (Brennan, 2004).

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PART 11: SCORING OF OPEN-ENDED ITEMS

Arizona's Instrument to Measure Standards (AIMS) assessment requires students to write an essay in response to a specific writing topic or prompt. Students are given two pages to write their response. Writing is scored for Grades 5, 6, 7, and High School only. Grades 5, 6 and 7 are scored in the spring. The High School Writing assessment is a graduation requirement and is scored in the spring and fall. The procedure for scoring these writing essays is described in this chapter.

11.1 Scoring Process

Outlined below is the scoring process that the AIMS testing contractor follows. AIMS is scored using the distributed model in which scorers are able to train and score at home. Only the PSC (Performance Scoring Center) supervisory staff which monitors the training and scoring is at a regional site. This procedure is used to score all written essays for the AIMS assessments.

11.1.1 Rangefinding and Rubric Review

No Rangefinding was conducted this year since the operational items selected were already reviewed by committees during the previous year's rangefinding.

11.1.2 Recruiting and Training Scorers

Highly qualified scorers are essential to achieving and maintaining a high degree of reliability in scoring students' responses. Thus, the careful selection of professional scorers to evaluate writing essay response items is critical in scoring the AIMS assessments. Scorers are recruited by our Human Resources department and must have extensive experience scoring this type of writing on previous projects. Scorers must also have performed well based on our internal quality metrics of Inter-rater reliability and validity to have achieved a high enough performance rating on previous multi-trait writing to be recruited for the AIMS assessment. Included in our scorer pool is a core group of veteran scorers with experience in working on other holistic writing projects whose insight, flexibility, and dedication have been demonstrated while working on a range of performance assessments.

Scoring supervisors are chosen from the pool of scorers based on demonstrated expertise in all facets of the scoring process, including strong organizational abilities and training skills. Individuals chosen to perform these assignments possess practical skills, leadership abilities, and sensitivity to interpersonal communication requirements. Supervisors also possess the essential capability of assimilating and helping scorers understand the particular scoring requirements of the AIMS.

Upon being hired, scorers sign a confidentiality agreement in which they pledge to keep all information and student responses confidential. Scorers and scoring supervisors are trained to thoroughly learn the rubric and score responses according to the scoring guidelines developed for the AIMS assessment.

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At the beginning of each scoring project, all scoring supervisors and scorers assigned to the project must complete project-specific training and qualification.

11.1.3 Training

Thorough training is vital to the successful completion of any scoring. PSC content specialists and scoring directors follow a series of prescribed steps to ensure training is consistent and of the highest quality. The PSC staff develops its training materials to facilitate learning through visual, auditory and kinesthetic channels. The training for AIMS is conducted using on-line modules designed to take scorers through the background of the assessment and through the rubric and anchor sets for each item. Scorers are then required to take two sets of practice papers and two sets of qualification papers once they complete the item specific modules. Once the scorer completes the practice and qualification sets for that item and qualifies, the scorer takes a calibration set and then is allowed to score live responses for that item. There is a single holistic writing rubric for scoring all grades for the AIMS. A scorer is only required to train and qualify on a particular item.

Prior to scorer training, the PSC subject leaders conduct scoring supervisor training. A primary goal of this session is to ensure scoring supervisors clearly understand the scoring protocols and the training materials. This ensures all responses are scored in a manner consistent with the scores assigned to the anchor papers and according to the intentions of ADE. Scoring supervisors read and discuss the assessment items along with the rubrics used to score them. Scoring supervisors are then required to complete the online training for the item they are assigned. They must qualify for that item in order to be on the project.

The online project training module includes an introduction to the assessment program whose tests are being scored. It is important for scorers to have an understanding of the history and goals of the assessments and the context within which students' responses are evaluated. This gives them a better understanding of what types of responses can be expected. The scorers receive a description of the scoring criteria applied to the responses. Next, the item specific training module presents the writing prompt to be scored and the scoring rubric itself for that item. These online training modules are listed as follows:

Module 1 – Scoring AIMS Writing (Project Specific)

Module 2 – Scoring Grade ____Writing. (Item Specific)

The primary goal of training is to convey to the scorers the decisions made during training paper selection about what type(s) of responses correspond to each score point and to help scorers internalize the scoring protocol so they may effectively apply those decisions. Scorers are better able to comprehend the scoring guidelines in context, so the rubric is presented in conjunction with the anchor papers. Anchor papers are the primary points of reference for scorers as they internalize the rubric. There are three to four anchor papers for each score point value represented in the rubric. The item specific training modules direct scorers' attention to the score point description from the scoring guide, as well as the illustrative anchor papers, thereby enabling scorers to immediately connect the language of the rubric with actual student performance.

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After presentation and discussion of the anchor papers, each scorer is shown two practice sets. Practice papers represent each score point and are used during training to help scorers become familiar with applying the rubric. Some papers clearly represent the score point. Others are selected because they represent borderline responses. Use of these practice sets provides guidance to scorers in defining the line between score points. Training is a continuous process, and scorers are consistently given feedback as they score. Scorers must then pass one of two qualification sets to show a grasp of all the training they have received.

11.1.4 Quality Control

A variety of reports are produced throughout the scoring process to allow scoring supervisory staff to monitor the progress of the project, the reliability of scores assigned, and individual scorers' work. Those reports include:

- Daily and Cumulative Inter-Rater Reliability Reports by Item and Scorer. These reports provide information about how many times scorers were in exact agreement or assigned adjacent scores. The reliability is computed and is monitored daily and cumulatively for the project.

- Pre-scored Validity responses are channeled through the ePEN scoring system and delivered to scorers randomly. Scoring supervisors can get a sense of each reader's grasp of scoring by monitoring their validity agreement rates.

- Daily and Cumulative Frequency Distributions. These reports show how many times each score point has been assigned to the item being scored by readers. The frequency distributions are produced both on a daily basis and cumulatively for the entire scoring project. This report allows scoring supervisors and scoring directors to see whether scorers have a tendency to score consistently high or low.

The most immediate method of monitoring a scorer's performance is through backreading by scoring supervisors. If a scoring supervisor discovers that a scorer is consistently assigning scores other than those the scoring supervisor would assign, he or she can message that scorer using the backreading function and through the instant messaging system in the ePEN scoring system. The validity papers also have annotations that can be reviewed by that scorer after it is scored, using the original anchor papers and training materials. This immediate check and remedial correction also provide an effective guard against scorer drift.

With the help of the individual scorer reliability and validity reports, the scoring staff can closely monitor each scorer's performance. As a distributed project, scorers are monitored for quality using the scorer exception process. Criteria are entered into the ePEN scoring system for Inter-Rater Reliability, validity and scoring rate. A scorer must meet and maintain the quality metrics established for AIMS in these areas in order to continue scoring the project. If a scorer fails to meet validity, IRR or scoring rate for the first time, the scorer receives a warning and must contact the scoring staff for feedback. If a scorer fails to meet validity a second time, they must then take and pass a 10 paper calibration set in order to continue on the project. Scorers also receive daily calibration

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sets which they must pass or be targeted for exception. In addition, scorers that have been warned for low IRR or validity are continuously monitored through backreading.

If a scorer fails the targeted calibration for low validity, the scorer is automatically locked out of the system and can no longer score. The scorer receives an e-mail notification that he or she is dismissed from the project. Scorers who have low IRR or a lower or higher than desired scoring rate are closely monitored in backreading and through reports. If in the opinion of the Scoring Director and Content Specialist, these scorers are still performing below acceptable standard after receiving sufficient feedback and given every reasonable opportunity to improve; they will be manually locked out of the system and notified by email that they are dismissed from the project.

11.1.5 Appeals

The ADE must approve all requests for appeals submitted by district test coordinators. Once PSC receives a request from ADE that a rescore is required for a student, the process outlined below will be followed.

A PSC Scoring Director will use the following procedure to score appeals for an AIMS Writing response:

- Review the scoring rubric, anchor papers, and training materials.
- Read the student's response.
- Score each response based on the scoring rubric and anchor papers.
- Compare rescored response scores to the original scores. For scores that are the same or adjacent, the original score will stand. For scores that are discrepant, the new score will override the original score.
- Determine if the student's response was written in No. 2 pencil.

Pearson will determine the performance level of the rescored response. If the student's rescored performance level (*Falls Far Below, Approaches, Meets*, or *Exceeds*) is the same as the student's original performance level, Pearson will submit an invoice to the district. No paper reports will be generated.

If the student's rescored performance level is different from the student's original performance level **and** the student's response **was not** in No. 2 pencil, Pearson will submit an invoice to the district. Pearson will provide the district with two copies of the revised Student Report.

If the student's rescored performance level is different from the student's original performance level **and** the student's response **was** in No. 2 pencil, Pearson will provide the district with two copies of the revised Student Report at no charge.

No appeals were received for the Fall 2011 or Spring 2012 administrations.

11.1.6 Security

To ensure security is never compromised, the following safeguards are employed:

- Scoring materials are accessed by scorers on a secure website that is managed by Pearson Scoring Support. Only scorers hired for AIMS are allowed access.

- No scorers are hired who reside in Arizona as per contract requirement.

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- Scorers and scoring staff personnel must sign a non-disclosure and confidentiality form in which they agree not to use or divulge any information concerning the tests.
- Any contact with the press is handled through ADE

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REFERENCES

Allen, M. J., & Yen, W. M. (1979). *Introduction to measurement theory.* Monterey, CA: Brooks/Cole.

American Educational Research Association, American Psychological Association, and National Council on Measurement in Education. (1999). *Standards for educational and psychological testing.* Washington, DC: American Educational Research Association.

Angoff, W. (1993). Perspectives on differential item functioning methodology. In P.W. Holland & H. Warner (Eds.), *Differential item functioning* (pp. 3-24). Hillsdale, NJ: Lawrence Erlbaum Associates.

Arizona Department of Education. (2005). *Body of work standard setting technical report for Grades 3,5,8 and high school writing.* Monterey, CA: CTB/McGraw-Hill.

Arizona Department of Education. (2005*). Bookmark standard setting technical report for Grades 3,5,8, and high school reading and mathematics.* Monterey, CA: CTB/McGraw-Hill.

Arizona Department of Education. (2005). *2005 Arizona technical report.* Monterey, CA: CTB/McGraw-Hill.

Arizona Department of Education. (2008). *2008 Arizona technical report.* Monterey, CA: CTB/McGraw-Hill.

Arizona Department of Education. (2008). *2008 writing assessment pre-linking study*. Monterey, CA: CTB/McGraw-Hill.

Arizona Department of Education. (2009). *Test administration directions.* Monterey, CA: CTB/McGraw-Hill.

Arizona Department of Education. (2009). *Test coordinator's manual*. Monterey, CA: CTB/McGraw-Hill.

Arizona Department of Education. (2010). *2010 Arizona technical report.* Iowa City, IA: Pearson.

Arizona Department of Education. (2010). *Standard setting report: Mathematics grades 3-8 and high school.* Iowa City, IA: Pearson.

Arizona Department of Education. (2011). *Standard setting report: Writing grades 5, 6, 7 and high school*. Iowa City, IA: Pearson.

Brennan, R. L. (2004). BB-CLASS: A computer program that uses the beta-binomial model for classification consistency and accuracy [Computer program]. Iowa City, IA: The University of Iowa Center for Advanced Studies in Measurement and Assessment.

Brennan, R. L., & Prediger, D. J. (1981). Coefficient kappa: some uses, misuses, and alternatives. *Educational and Psychological Measurement, 41,* 687-699.

Copyright © 2012 by the Arizona Department of Education

Camilli, G., & Shepard, L. A. (1994). *Methods for identifying biased test items.* Newbury Park, CA: Sage.

Choi, S. (2005). CalcSEM_Rasch.SAS [Computer program]. Unpublished.

Clauser, B. E., & Mazor, K. M. (1998). Using statistical procedures to identify differentially functioning test items. *Educational Measurement: Issues and Practice, 17,* 31-44.

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement, 20,* 37-46.

Crocker, L., & Algina, J. (1986). *Introduction to classical and modern test theory.* Belmont, CA: Wadsworth Group/Thompson Learning.

CTB/McGraw-Hill. (2001). *TerraNova, the second edition, California Achievement Tests®*. Monterey, CA: Author.

CTB/McGraw-Hill. (2001). *TerraNova, the second edition, Norms book.* Monterey, CA: Author.

CTB/McGraw-Hill. (2003). *TerraNova, the second edition: California Achievement Tests® Technical Report*. Monterey, CA: Author.

Feldt, L.S. & Brennan. R.L. Reliability. In R.L. Linn (Ed.). *Educational Measurement*. (3rd ed., pp. 105-146). New York: Macmillan.

Green, D. R. (1975, December). *Procedures for assessing bias in achievement tests*. Presented at the National Institute of Education Conference on Test Bias, Annapolis, MD.

Holland, P. W., & Thayer, D. T. (1988). Differential item performance and the Mantel-Haenszel procedure. In H. Wainer & H. I. Braun (Eds.), *Test validity* (pp. 129-145). Hillsdale, NJ: Lawrence Erlbaum Associates.

Lee, W., Hanson, B. A., Brennan, R. L. (2002). Estimating consistency and accuracy indices for multiple classifications. *Applied Psychological Measurement, 26,* 412-432.

Linacre, J. M. (2002). What do infit and outfit, mean-square and standardized mean? *Rasch Measurement Transactions, 16(2),* 878.

Linacre, J. M. (2005). WINSTEPS Rasch measurement [Computer software]. Chicago: Winsteps.com.

Livingston, S. A., & Lewis, C. (1995). Estimating the consistency and accuracy of classification consistency and accuracy based on test scores. *Journal of Educational Measurement, 32,* 179-197.

Lord, F. M. (1980). *Applications of item response theory to practical testing programs.* Hillsdale, NJ: Lawrence Erlbaum.

Lord, F. M., & Novick, M. R. (1968). *Statistical theories of mental test scores.* Reading MA: Addison-Wesley.

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Rasch, G. (1960). *Probabilistic models for some intelligence and attainment tests.* Copenhagen, Denmark: Danmarks Paedogogiske Institut.

Shrout, P. E., & Fleiss, J. L. (1979). *Intraclass correlations: uses in assessing rater reliability. Psychological Bulletin, 86(2),* 420-428.

Wang, T. W., Kolen, M. J., & Harris, D. J. (2000). Psychometric properties of scale scores and performance levels for performance assessments using polytomous IRT. *Journal of Educational Measurement, 37,* 141-162.

Wright, B.D. (1977). Solving measurement problems with the Rasch model. *Journal of Educational Measurement, 14(2),* 97-116.

Wright, B. D., & Linacre, J. M. (1992). *BIGSTEPS Rasch analysis* [Computer software]. Chicago, IL: MESA Press.

Wright, B. D., & Linacre, J. M. (1994). Reasonable mean-square fit values. *Rasch Measurement Transactions, 8,* 370.

Wright, B. D., & Masters, G. N. (1982). *Rating scale analysis: Rasch measurement*. Chicago: MESA Press.

Wright, B. D., & Stone, M. H. (1979). *Best test design.* Chicago, IL: MESA Press.

Yen, W. M. (1984). Obtaining maximum likelihood trait estimates from number-correct scores for the three-parameter logistic model. *Journal of Educational Measurement, 21,* 93-111.

Yen, W. M., & Burket, G. R. (1997). Comparison of item response theory and Thurstone methods of vertical scaling. *Journal of Educational Measurement, 34(4),* 293-313.

Zieky, M. (1993). Practical questions in the use of DIF statistics in test development. In P. W. Holland & H. Wainer (Eds.) *Differential item functioning* (pp. 337-348). Hillsdale, NJ: Lawrence Erlbaum Associates.

Zwick, R., Donoghue, J. R., & Grima, A. (1993). Assessment of differential item functioning for performance tasks. *Journal of Educational Measurement, 26,* 44-66.

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APPENDIX A
FALL 2011 AIMS ADMINISTRATION

Overview:

The Fall 2011 AIMS assessments were administered in reading, writing, and mathematics to students in high school who were in Grades 11 and 12 and had not yet obtained a passing score on one or more of the content areas. These assessments were written to the Arizona content standards and were designed to measure student performance with respect to these standards. The Fall 2011 AIMS assessments in reading and mathematics were multiple-choice, criterion-referenced tests. The Fall 2011 AIMS Writing assessment consisted of a single extended response essay prompt.

Test Design, Development, and Administration:

The design and development of the Fall 2011 AIMS assessments reflect the same guiding principles that were followed for the Spring 2011 AIMS assessments. Arizona teachers, curriculum specialists, and administrators from across the state were an integral part of the AIMS test development process. More information regarding the committee meetings, the test blueprints, and the test development process is contained in Parts 3 and 4 of this technical report.

The test design and structure of the Fall 2011 AIMS assessment mirrored the structure of the AIMS assessments administered in spring. That is, the AIMS Reading test consisted of 54 multiple-choice items developed by Arizona teachers. Raw scores ranged from 0-54 and scale scores ranged from 500 to 900. Similarly, the AIMS Mathematics test consisted of 85 multiple-choice items developed by Arizona teachers. Raw scores ranged from 0-85 and scale scores ranged from 500 to 900. Finally, the AIMS Writing assessment consisted of one extended response writing prompt and 27 multiple-choice items. The multiple-choice component is weighted 40% and the essay response is weighted 60% in the total score. Responses to the prompt were scored on the holistic six-point rubric (see appendix D). Each essay response received two ratings. Final scores for responses with adjacent ratings were derived by averaging the two ratings. Final scores for responses with discrepant ratings (difference of 2 points) were resolved by a third rater. The raw scores ranged from 0-138, and scale scores were designed to range from 300-700. There are no norm-referenced items included in the high school AIMS assessments.

The test selection process for the Fall 2011 AIMS was designed such that resulting tests matched the Spring 2011 AIMS in overall test difficulty and content coverage. The test selection process is described in Part 4 of this report.

Test administration procedures for the Fall 2011 AIMS are described in Part 5 of this report.

Scaling and Equating:

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The Fall 2011 AIMS administration was designed for students who were retaking the assessment because they had not obtained a passing score on one or more of the content areas. The population of students that retake the AIMS assessments varies from administration to administration in terms of its composition and achievement. Moreover, expediency in the reporting of results to the population of students who are retaking the AIMS assessments was considered to be a priority. For these reasons, a pre-equating model was adopted for the Fall AIMS administration.

Pre-equating takes advantage of an existing bank of previously calibrated and scaled items such that an equated form and an associated number correct to scale score conversion table can be constructed prior to operational administration. The Fall 2011 assessment was constructed from items that had been previously administered in the Spring 2011 AIMS administration and had been calibrated and linked to the operational scale of measurement using the Rasch measurement model. Using the existing item parameters for the items selected to be on the Fall 2011 AIMS assessment, the number correct to AIMS scale score conversion tables were created. The raw score to scale score conversions, including the standard error of measurement (SEM) for each scaled score, are presented in Tables A.1 through A.3.

Fall 2011 AIMS Test Results:

The results of the Fall 2011 AIMS are reported in Tables A.4 through A.6. Results presented below are based on population data contained within the final electronic data files. The results presented in this part of the technical report may differ slightly from final testing results presented on the Arizona Department of Education website due to slight differences in the application of exclusion rules. Official final results typically use more detailed school-level information than is used to conduct research analyses. The results in the following tables are presented as evidence of reliability and validity of the AIMS assessments and should not be used for state accountability purposes.

Results for AIMS high school assessments are reported by graduating cohort. Cohort 13 is defined as the group of students that will be graduating in 2013, and typically includes 11th grade students. Cohort 12 is defined as the group of students that will be graduating in 2012, and is typically comprised of seniors. Cohort 11 is defined as the group of students that were expected to have graduated in 2011 or prior. For each cohort, scale score means and standard deviations as well as the percentages of students in each performance level are presented for the state as a whole and disaggregated into various demographic groups. Disaggregated results were produced for the various groups by using demographic data on student answer documents.

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Table A.1
Fall 2011 AIMS Raw Score to Scale Score Table
Mathematics CRT High School

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	59	43	469	10
1	300	42	**44**	**472**	**10**
2	300	30	45	474	10
3	317	25	46	476	10
4	330	22	47	479	10
5	340	19	48	481	10
6	348	18	49	483	10
7	356	17	50	486	10
8	362	16	**51**	**488**	**10**
9	368	15	52	491	10
10	373	14	53	493	10
11	378	14	54	495	10
12	383	13	55	498	10
13	387	13	56	501	10
14	391	13	57	503	10
15	395	12	58	506	10
16	398	12	59	508	11
17	402	12	60	511	11
18	405	12	61	514	11
19	408	11	62	517	11
20	412	11	63	520	11
21	415	11	64	523	11
22	418	11	65	526	11
23	420	11	66	529	12
24	423	11	67	532	12
25	426	11	68	535	12
26	429	10	**69**	**539**	**12**
27	431	10	70	543	13
28	434	10	71	547	13
29	436	10	72	551	13
30	439	10	73	555	14
31	441	10	74	560	14
32	444	10	75	565	15
33	446	10	76	570	15
34	449	10	77	576	16
35	451	10	78	582	17
36	453	10	79	590	18
37	456	10	80	598	20
38	458	10	81	609	22
39	460	10	82	622	25
40	463	10	83	639	30
41	465	10	84	669	42
42	467	10	85	700	59

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Table A.2
Fall 2011 AIMS Raw Score to Scale Score Table
Reading CRT High School

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	500	61	28	667	13
1	500	44	29	671	13
2	510	31	**30**	**674**	**13**
3	529	26	31	678	13
4	543	23	32	682	13
5	554	21	33	686	13
6	563	19	34	690	13
7	571	18	35	694	13
8	578	17	36	698	13
9	585	16	37	702	13
10	591	16	38	706	14
11	596	15	39	711	14
12	602	15	40	715	14
13	607	14	41	720	15
14	611	14	42	725	15
15	616	14	43	730	15
16	620	14	44	736	16
17	625	13	45	742	17
18	**629**	**13**	46	749	17
19	633	13	47	756	18
20	637	13	48	764	19
21	641	13	**49**	**774**	**21**
22	645	13	50	785	23
23	648	13	51	799	26
24	652	13	52	818	32
25	656	13	53	849	44
26	659	13	54	900	61
27	663	13			

Note: SEM is the standard error of measurement for the scale score. High school Reading scale scores are not on the same vertical scale as Grades 3-8.

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Table A.3
Fall 2011 AIMS Raw Score to Scale Score Table
Writing CRT High School

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	55	35	376	11	70	454	9	105	535	11
1	300	55	36	379	11	71	456	9	106	538	11
2	300	55	37	381	10	72	458	9	107	541	11
3	300	55	38	384	10	73	460	9	108	543	11
4	300	55	39	387	10	74	462	9	109	546	11
5	300	55	40	390	10	75	464	9	110	549	11
6	300	55	41	392	10	76	466	9	111	552	11
7	300	55	42	395	10	77	468	9	112	555	11
8	300	55	43	397	10	78	470	9	113	558	11
9	300	55	44	400	10	79	472	9	114	561	11
10	300	55	45	402	10	80	474	9	115	564	11
11	300	55	46	404	9	81	476	9	116	567	11
12	300	55	47	406	9	82	478	9	117	570	11
13	300	55	48	409	9	83	480	9	118	573	11
14	300	55	49	411	9	84	483	9	119	576	11
15	300	39	50	413	9	85	485	9	120	580	11
16	300	27	51	415	9	86	487	9	121	583	12
17	300	22	52	417	9	87	489	9	122	586	12
18	301	19	53	420	9	88	491	9	123	590	12
19	309	17	54	422	9	89	494	9	124	594	12
20	316	16	55	424	9	90	496	9	125	598	13
21	322	15	56	426	9	91	498	10	126	602	13
22	328	14	57	428	9	92	500	10	127	606	13
23	333	14	58	430	9	93	503	10	128	611	14
24	337	13	59	432	9	94	505	10	129	616	15
25	342	13	60	434	9	95	508	10	130	622	15
26	346	12	61	436	9	96	510	10	131	628	16
27	349	12	62	438	9	97	513	10	132	636	17
28	353	12	63	440	9	98	515	10	133	644	19
29	357	12	64	442	9	99	518	10	134	654	21
30	360	11	65	444	9	100	521	10	135	666	24
31	363	11	66	446	9	101	524	10	136	683	29
32	366	11	67	448	9	102	526	10	137	700	40
33	370	11	68	450	9	103	529	11	138	700	56
34	373	11	69	452	9	104	532	11			

Note: SEM is the standard error of measurement for the scale score. The writing scores range from 0 to 138 because the single essay response is scored by two raters on a scale of 1 to 6 on six traits. The trait scores are summed to produce the final score. Scores below 12 are artificial.

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Table A.4
Fall 2011 AIMS Results
Mathematics CRT High School

		Scale Score		% at Performance Level			
	N	M	SD	FFBS	AS	MS	ES
Cohort 13							
Total	28659	473.01	30.92	47	22	29	3
Ethnic Background							
Hispanic	14125	469.99	28.54	50	22	26	1
Non Hispanic	14108	475.66	32.49	44	21	31	4
White	21306	473.82	30.33	45	22	30	3
Black	2137	467.09	30.00	55	19	24	2
American Indian	2553	466.08	27.87	56	21	22	1
Asian	554	485.88	40.97	36	17	36	11
Secial Program Membership							
English Learner Program	954	448.48	26.27	82	10	8	1
Special Education	4793	449.03	26.11	80	11	8	0
SES	17420	469.35	28.94	51	22	26	1
Migrant	76	462.16	26.93	55	26	18	0
Cohort 12							
Total	15907	469.48	28.28	50	23	25	1
Ethnic Background							
Hispanic	8515	468.91	26.72	51	24	25	1
Non Hispanic	7176	470.03	29.78	50	22	26	2
White	11288	470.62	27.75	48	24	27	1
Black	1372	464.55	28.30	56	21	23	0
American Indian	1652	464.31	26.07	58	22	20	0
Asian	269	483.23	37.79	38	22	32	8
Secial Program Membership							
English Learner Program	671	454.67	26.24	74	15	11	0
Special Education	3230	448.97	24.36	80	12	8	0
SES	9309	468.30	26.69	51	24	24	1
Migrant	60	470.90	23.03	48	27	25	0
Cohort 11							
Total	4129	458.47	24.22	69	19	11	0
Ethnic Background							
Hispanic	2524	458.76	23.30	69	20	11	0
Non Hispanic	1514	458.27	25.81	70	18	12	0
White	2541	459.72	24.38	67	21	12	0
Black	364	453.51	22.60	79	13	8	0
American Indian	551	457.25	25.24	72	15	12	0
Asian	61	461.52	26.44	64	21	13	2
Secial Program Membership							
English Learner Program	327	456.14	23.31	75	16	8	1
Special Education	638	440.28	21.27	91	7	2	0
SES	2002	458.96	23.97	68	21	11	0
Migrant	30	469.13	19.85	47	30	23	0

Note: FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, off-grade, or a non-standard accommodation are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. The results are not final results and are presented here for purpose of addressing reliability and validity. These results should not be used for accountability purposes.

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Table A.5
Fall 2011 AIMS Results
Reading CRT High School

Group	N	Scale Score M	Scale Score SD	% at Performance Level FFBS	AS	MS	ES
Cohort 13							
Total	18968	682.08	49.38	11	36	46	7
Ethnic Background							
Hispanic	9415	671.3	40.33	12	43	43	2
Non Hispanic	9034	691.39	54.32	10	31	49	10
White	13416	683.33	49.47	10	36	46	7
Black	1416	669.95	44.11	16	40	41	3
American Indian	1719	667.37	36.79	12	46	41	1
Asian	638	698.99	62.77	13	27	44	17
Secial Program Membership							
English Learner Program	987	635.98	26.6	38	53	9	0
Special Education	3886	647.68	32.95	27	51	21	0
SES	11681	671.06	41.34	13	42	42	2
Migrant	59	663.85	31.87	15	44	41	0
Cohort 12							
Total	7313	666.27	41.29	15	46	36	2
Ethnic Background							
Hispanic	4029	661.43	36.15	16	49	34	1
Non Hispanic	3104	671.01	45.46	15	43	38	4
White	4749	666.81	42.29	15	46	36	3
Black	671	659.82	36.93	19	46	34	1
American Indian	856	660.35	32.3	14	53	33	0
Asian	234	669.8	43.03	15	42	41	2
Secial Program Membership							
English Learner Program	694	642.82	27.66	29	57	14	0
Special Education	2128	643.85	29.88	31	53	16	0
SES	4428	661.08	35.75	16	50	33	1
Migrant	37	653.24	35.25	16	68	14	3
Cohort 11							
Total	2053	657.75	33.99	17	53	30	1
Ethnic Background							
Hispanic	1279	656.82	30.71	16	56	28	0
Non Hispanic	720	659.31	37.87	18	48	33	1
White	1221	658.95	34.11	16	52	31	1
Black	192	648.77	34.23	24	49	26	0
American Indian	304	654.54	31.75	18	55	27	0
Asian	49	655.2	37.16	16	65	16	2
Secial Program Membership							
English Learner Program	307	643.6	29.67	27	58	15	0
Special Education	440	641.17	30.85	33	53	14	0
SES	971	652.92	30.43	18	57	24	0
Migrant	15	648.13	33.93	33	47	20	0

Note: FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, off-grade, or a non-standard accommodation are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. The results are not final results and are presented here for purpose of addressing reliability and validity. These results should not be used for accountability purposes.

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Table A.6
Fall 2011 AIMS Results
Writing CRT High School

Group	N	Scale Score M	Scale Score SD	% at Performance Level FFBS	AS	MS	ES
Cohort 13							
Total	25721	482.9	46.87	11	38	49	2
Ethnic Background							
Hispanic	12264	472.65	39.58	13	44	42	1
Non Hispanic	12772	490.68	49.9	10	33	54	4
White	18926	484.43	46.19	10	37	50	2
Black	1727	472.52	41.87	14	42	42	1
American Indian	2219	466.29	36.82	16	50	34	0
Asian	791	499.55	61.78	12	26	55	7
Secial Program Membership							
English Learner Program	910	424.66	34.89	55	41	4	0
Special Education	4355	445.58	37.03	34	49	17	0
SES	15146	471.88	40.04	14	44	42	1
Migrant	76	462.66	39.44	21	45	34	0
Cohort 12							
Total	8036	463.72	40.91	20	47	32	0
Ethnic Background							
Hispanic	4271	459.15	36.01	21	51	27	0
Non Hispanic	3571	468.35	44.88	19	42	37	1
White	5495	465.55	40.74	19	47	34	1
Black	627	455.89	41.54	25	48	26	0
American Indian	852	455.21	35.71	24	51	25	0
Asian	223	462.62	48.48	28	37	35	1
Secial Program Membership							
English Learner Program	625	432.2	32.8	51	42	7	0
Special Education	2170	439.82	34.72	39	49	12	0
SES	4707	458.81	37.05	22	50	28	0
Migrant	42	445.07	32.22	31	52	17	0
Cohort 11							
Total	2159	449.15	35.68	29	52	19	0
Ethnic Background							
Hispanic	1307	447.61	33.44	29	55	16	0
Non Hispanic	794	450.69	38.03	30	48	22	0
White	1273	449.63	35.19	29	52	19	0
Black	200	443.03	38.11	37	45	19	0
American Indian	306	447.56	33.05	29	56	14	0
Asian	54	441.63	41.42	43	37	20	0
Secial Program Membership							
English Learner Program	321	429.28	32.8	56	38	6	0
Special Education	452	430.71	32.85	48	46	6	0
SES	1061	446.71	33.77	31	54	16	0
Migrant	21	442.95	30.98	33	57	10	0

Note: FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, off-grade, or a non-standard accommodation are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. The results are not final results and are presented here for purpose of addressing reliability and validity. These results should not be used for accountability purposes.

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APPENDIX B
ITEM WRITER SELECTION CRITERIA

AIMS Committee Participant Selection Criteria

ARIZONA DEPARTMENT OF EDUCATION

PROCEDURE FOR SELECTION OF EDUCATOR COMMITTEES
ARIZONA ASSESSMENT SECTION

Although our database contains over 1000 educators, the Assessment Section is always recruiting new teachers to serve on the committees, and have prevailed upon veteran teachers to become Ambassadors of the Assessment by encouraging their colleagues to apply.

Once Arizona educators are identified and entered into the database, the Assessment Section uses the following procedures for selecting membership for a committee:

- Identify the purpose/function of the committee
- Establish the date and time of the committee
- Determine the criteria for membership on the committee:
    - Content area of expertise
    - Grade level experience
    - Specific skill or knowledge expertise for committee function
    - Prior experience on ADE committees—a minimum 50% of each committee will have prior experience
    - Location of district/school
        - Rural/urban/suburban
        - Approximately 50% of committee members from Maricopa County when appropriate for purpose of committee
    - Ethnicity of school population or committee member
    - SES of school population
    - Number of committees served on recently—a committee member cannot serve on a series of committees used to develop items. Otherwise, they would be passing judgment on their own prior work. (This is a change in procedure)*

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- Review the database for educators that meet the criteria established
- Select committee members based on criteria for particular committee for primary and alternate list
- Invitations are sent to selected committee members on primary list **
- After decline and accept emails are received by established deadline, additional invitations issued to members on alternate list
- Committee meeting held
- Review performance of participants

  * ADE is concerned that utilizing the same committee members on a series of committees will reduce the input from a variety of educators and have requested that past committee participation be part of the selection process. As the pool of teachers expands, individual members will serve on fewer committees.

  ** It is not the policy to inform all members in our database of scheduled committee meetings, but only those invited to a particular meeting.

Beginning in April of 2006, all past participants have been invited to update their applications on a yearly basis in order to have the most current information in the database. Also, when Arizona educators participate on a committee, they are asked to review their information and note anything that might have changed. The application identifies the demographics of each committee member: geographic location in Arizona, ethnicity of school/district population and/or committee participant, and a detailed biographical background including participation on AIMS committees.

In order to replace past participants who have moved, changed positions, or no longer possess the time to serve, a recruitment letter was sent in October of 2006 to solicit recommendations from District Superintendents regarding prospective educators whose expertise and participation could be of great benefit. The ADE is constantly recruiting Arizona educators to serve on the various AIMS committees as well as encouraging retention of its veteran contributors and recognizing them as excellent Ambassadors of the Assessment.

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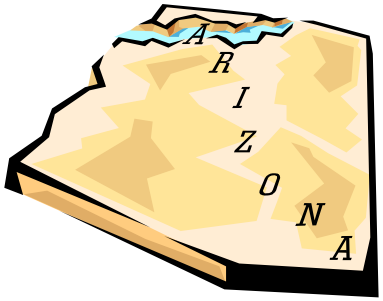
APPENDIX C
ITEM WRITING / EDITING WORKSHOP TO SUPPORT 2012 AIMS

Following are the PowerPoint slides used during the AIMS Item Writing Workshop during April 2011.

2011 Item Writer Training



April 2, 2011

Arizona Department of Education

and

Pearson

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Introduction

- ✓ **Why are you here?**
- ✓ **What will you do?**
- ✓ **What happens after this?**

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Pearson Facilitators

- ✓Adrian Rivera, Test Development Manager

  Adrian.Rivera@pearson.com
- ✓Albert Hernandez, Math Content Specialist

  Albert.Hernandez@pearson.com
- ✓Kellie Crain Schmidt, Reading Content Specialist

  Kellie.Crain@pearson.com
- ✓Kevin McCarthy, Science Content Specialist

  Kevin.Mccarthy2@pearson.com
- ✓Matthew Malay, Writing Content Specialist

  Matthew.Malay@pearson.com

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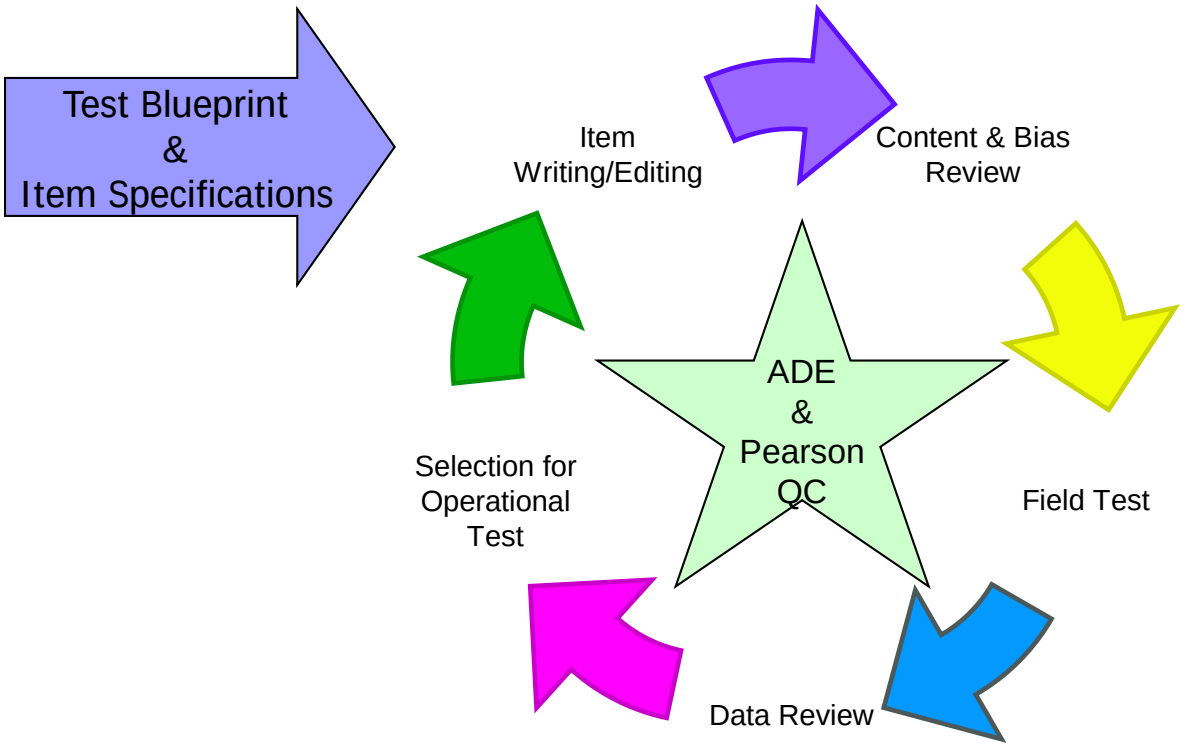
AIMS Test Development Cycle



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Parts of an Item

1. Complete Item **Science Grade 8: 5.1.3**

A student adds baking soda to some vinegar and it bubbles. What is evidence that a chemical reaction has occurred? ← **Stem**

		Rationales
A	change in shape	Physical change
B	increase in mass	Physical change
C*	generation of gas ← **Correct Response**	CR; chemical change
D	increase in volume	Physical change

Distractors (Incorrect Options)

Note: The correct option or correct response is often abbreviated CR.

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Parts of an Item

2. Items with art

Science Grade 4: 1.3.3

Students tested the effect of fertilizer on the height of strawberry plants and the mass of fruit produced by the plants over a three-month period.

Stem

Plant Group	Average Height (cm)	Average Mass of Fruit Produced (kg)
Without Fertilizer	100	3.5
With Fertilizer	135	6.0

Graphic / Art

Which information would be most useful to a farmer who grows strawberries?

Question

Note that art should be used to separate the lead information from the question to be answered.

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Things to Consider When Writing or Reviewing Items

- Performance Objective Match
- Appropriateness
  - Clarity
  - Format
  - Answer Options
- Bias
- DOK (Depth of Knowledge)

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Performance Objective Match

- ✓ Does the item assess the strand, concept, performance objective (PO) it is supposed to assess?
- ✓ Does the item pose a clearly defined problem or task appropriate to the PO?

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Appropriateness: *Clarity*

- ✓ Does the item test only one PO?
- ✓ Is the item well-written, clear, and concise? Avoid unnecessary context, wordiness, and "fluff." Use the simpler word, phrase, or clause.
- ✓ Does the item contain confusing wording?" Use age-appropriate, domain-based language with text vocabulary at or slightly below the grade level.
- ✓ Does the item use unnecessary synonyms? Word usage within the item must be consistent.
- ✓ Is the artwork clear, correct, and appropriate? Be precise when labeling figures, graphs, charts, and diagrams. Avoid unnecessary graphics and pictures.

Clearly stated items enhance student performance.

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Appropriateness: *Format*

- ✓ Is the format appropriate for the grade level being tested?
- ✓ Is the format sufficiently simple and interesting for students at this level?
- ✓ Is the item formatted so that it is not unnecessarily wordy or difficult?
- ✓ Is the item in a question format wherever possible?

An appropriate item format can improve student performance.

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Appropriateness: *Options*

An item's difficulty level is often a function of its incorrect options (distractors). An item with distractors that are incorrect, but plausible will provide a better indication of which students have mastered the skill being measured.

- ✓ Are the options plausible and still remain incorrect?
- ✓ Is there only one correct answer?
- ✓ Does any option eliminate another?
- ✓ Are the options worded clearly and concisely?
- ✓ Are the options reasonably parallel in structure?

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Bias and Sensitivity

Cultural, ethnic, gender, and economic imbalance (and stereotyping) can appear subtly in items and may unfairly inhibit the performance of groups of students.

- ✓ Does the item assume racial, class, or gender values or suggest stereotypes?
- ✓ Does the item provide an unfair advantage or disadvantage to certain groups of students?
- ✓ Does the item consider cultural and community sensitivity?

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Depth of Knowledge

Depth of Knowledge - a measure of the cognitive demand or degree of complexity of the task students are being asked to perform.

This is a measure of complexity not difficulty.

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Depth of Knowledge Levels

(Webb, 1999)

Level I: Recall – recall of a fact, definitions, or procedure

Level II: Basic Reasoning – Requires students to make some decisions as to how to approach a problem; comparing, classifying, organizing, estimating, ordering, or displaying; typically involves multi-step procedures

Level III: Complex Reasoning – Requires students to solve problems with more than one possible answer and requires students to justify responses

Level IV: Extended Reasoning – Requires an investigation; time to think and process multiple conditions of the problem

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Components of DOK

- The level of conceptualization required of students
- The type and level of generalization students must reach
- The amount of prerequisite knowledge and contexts students need to synthesize from to complete the task

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Components of DOK

- The level and complexity of reasoning required
- The types and variety of representations (written, verbal, pictorial, symbolic, etc.) required to complete a response
- The number and strength of connections students must make between facts, procedures, mental networks, concepts and ideas

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Components of DOK

- The required degree of generalization and transfer of knowledge and experience into new and/or different situations
- The grade level to which the item is assigned

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Items will be deemed "acceptable" based on the following criteria:

- Align to performance objective
- Meet the following standards of appropriateness:
  - Clarity
  - Format
  - Answer Options
- Are free of bias
- Written to the assigned DOK (Depth of Knowledge) level

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All items will be authored using Pearson's Test Developer's Studio (TDS)

- Individual item assignments will be arriving in your e-mail box within a few days.
- TDS instructions will be available for reference.
- Any questions about authoring in TDS can be addressed to the Pearson content specialist for your grade.

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TDS (continued)

- Initial submissions of items are due Friday, April 22.
- You will receive feedback detailing any edits that should be applied.
- Edited items will be brought to Item Editing meetings in June for group review.

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Security Reminders

- Please remember these items will eventually become “live” test items.
- Items should not be e-mailed.
- Specific content of items should remain confidential.

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Resources

- ✓ Double and triple check Web site resources.
- ✓ Avoid the use of any non-authentic data.
- ✓ Some good sources for ideas, data, or sample items:
  - ✓ ADE Web site
  - ✓ Academic journals and other materials
  - ✓ Almanacs
  - ✓ Books of lists
  - ✓ Newspapers
  - ✓ Government Web sites

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Thank you for sharing your expertise and for being

Ambassadors of the Assessment!

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APPENDIX D
AIMS HOLISTIC RUBRIC BASED ON 6 TRAITS OF WRITING

HOLISTIC RUBRIC BASED ON 6 TRAITS OF WRITING

SCORE POINT 6	SCORE POINT 5	SCORE POINT 4
Response is sophisticated and skillful in written communication, demonstrated by • exceptional clarity, focus, and control in topic development and organization that often show insight. • in-depth and/or creative exploration of the topic using rich, relevant, and credible details. • a strong, perhaps creative, beginning and a satisfying conclusion. • specifically and carefully chosen words that are skillfully crafted into phrases and sentences that enhance meaning. • intentional and committed interaction between the writer and the reader. • effective and/or creative use of a wide range of conventions with few errors.	Response is excellent and skillful in written communication, demonstrated by • clarity, focus, and control in topic development and organization. • a balanced and thorough exploration of the topic using relevant details. • an inviting beginning and a satisfying sense of closure. • a broad range of carefully chosen words crafted into phrases and varied sentences that sound natural. • awareness of the reader and commitment to the audience and topic. • effective use of a wide range of conventions with few errors.	Response is appropriate and acceptable in written communication, demonstrated by • ideas adequately developed with a clear and coherent presentation of ideas with order and structure that can be formulaic. • relevant details that are sometimes general or limited; organization that is clear, but sometimes predictable. • a recognizable beginning and ending, although one or both may be somewhat weak. • effective word choice that is functional and, at times, shows interaction between writer and audience. • somewhat varied sentence structure with good control of simple constructions; a natural sound. • control of standard conventions although a wide range is not used; errors that do not impede readability.

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SCORE POINT 3	SCORE POINT 2	SCORE POINT 1
Response is inadequate in written communication, demonstrated by • broad or simplistic ideas that are understood but often ineffective. • attempts at organizing that are inconsistent or ineffective; beginnings and endings that are underdeveloped; repetitive transitional devices. • developmental details that are uneven, somewhat predictable, or leave information gaps; details not always placed effectively in the writing. • reliance on clichés and overused words that do not connect with the reader; limited audience awareness. • monotonous and sometimes misused words; sentences may sound mechanical, although simple constructions are usually correct. • limited control of standard conventions with significant errors.	Response is poor in written communication, demonstrated by • overly simplistic and sometimes unclear ideas that have insufficiently developed details. • sequencing of ideas that is often just a list; missing or ineffective details that require reader inference to comprehend and follow. • missing beginning and/or ending. • repetitive, monotonous, and often misused words awkwardly strung into sentences that are difficult to read because they are either choppy or rambling; many sentences that begin with repetitive noun + verb pattern. • lack of audience awareness. • little control of basic conventions resulting in errors impeding readability.	Response is inferior in written communication, demonstrated by • lack of purpose or ideas and sequencing. • organization that obscures the main point. • an attempt that is too short to offer coherent development of an idea, if it is stated. • extremely limited vocabulary that shows no commitment to communicating a message. • sentences with confusing word order that may not permit oral reading. • severe and frequent errors in conventions.

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HOLISTIC RUBRIC BASED ON SIX TRAITS OF WRITING

Score Point 1: The writing skill in a Score Point 1 response is inferior. A paper receiving a SP 1 can be long or short. Length alone is not sufficient reason to score the response a SP 1. One or more bullets in the SP 1 rubric will describe this paper. It may also satisfy a bullet from a higher SP, but the majority of the response attributes are SP 1.

Score Point 2: The writing skill in a Score Point 2 response is poor. Ideas are presented but are not clear or organized. The reader must often reread and infer meaning because of the poor quality of writing. As with the SP 1, this paper may satisfy a bullet from a higher SP, but it fits into the SP 2 rubric more clearly than another.

Score Point 3: The writing in a Score Point 3 response is less than adequate. Ideas are simple; organization is inconsistent; development is uneven. While this paper may meet one or two bullets in a higher score, the majority of the attributes fall in the SP 3 rubric.

Score Point 4: The writing skill in a Score Point 4 response is appropriate and acceptable, demonstrating competent written communication. Clear ideas are organized coherently, although the paper is often formulaic. The message is presented so that most readers can easily understand it. The attributes from higher score points may emerge in some papers, but unless the paper satisfies a majority of bullets above the SP 4, it will earn a SP 4.

Score Point 5: The writing skill in a Score Point 5 response is excellent and shows skill above acceptable. This paper presents ideas clearly, organizes them with care, and uses vocabulary and sentences that demonstrate thoughtful choice and craftsmanship. A SP 5 paper may satisfy a bullet or two in SP 6, but it still does not meet a majority of the criteria in the SP 6. The majority of the SP 5 bullets will be represented.

Score Point 6: The writing skill in a Score Point 6 response is exemplary. The exceptional and sophisticated craftsmanship shows a thoughtful and exacting writer who strives to communicate clearly and creatively. While the paper may not fit every bullet in the SP 6 rubric, it will meet the majority of them. A SP 6 paper is not perfect. Errors may be noticed, but they do not detract from the message.

Condition codes for non-scored papers: BL = Blank; IL = illegible; NE = non-English; and OT = off-topic.

Always score papers by recognizing what the student has done well before looking for errors. Remember that the student is writing to a cold prompt with no assistance from a teacher. Score for the skills demonstrated. An error that is repeated still only counts as one error. For instance, if a student misspells "beautiful" four times, it is evident that he/she cannot spell "beautiful;" it is one error. Or if a student doesn't put a comma after introductory clauses throughout the paper, it is evident that he/she does not apply this comma rule; it is one error. If a student misuses the word "except" for "accept," the same applies whether it is done one time or five times. Strive to assign the score that is best represented by the bullets in a score point.

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