AzMERIT | Arizona's Statewide Achievement Assessment for English Language Arts and Mathematics

AzMERIT

Guide to the Sample Tests

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Prepared by the Arizona Department of Education and the American Institutes for Research®

Arizona Department of Education

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Introduction to This Guide

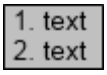
This user guide provides information for individuals accessing the AzMERIT online Sample Tests. This introduction describes the contents of this user guide and includes a key for identifying icons and elements used.

Guide Sections

Each section begins on a new page, which allows for easy printing.

- Section I. Purpose of Sample Tests provides information about the intended use for the Sample Tests.
- Section II. Logging In to the Sample Test Site provides information on how to log in and select a Sample Test.
- Section III. Overview of Sample Test Features includes information about a Sample Test layout, global and context menus, and the test tools that are available.
- Section IV. Keyboard Navigation provides keyboard commands for general test navigation as well as for specific features.
- Section V. Item Types on Computer-Based Tests (CBT) gives an overview of the item types that students may see on the Sample Tests and general guidelines on how to respond to items.
- Section VI. Writing Guides for English Language Arts (ELA) includes the ELA Writing Guides that students will be able to use during the test administration.
- Section VII. Calculator Guidance—Math provides information on the use of calculators on the AzMERIT tests.
- Section VIII. Paper-Based Testing (PBT) provides information on the Paper-Based version of the Computer-Based AzMERIT tests, including sample item formats.
- Section IX. CBT Sample Test Answer Keys provides answer keys and correct answers for items on each of the CBT Sample Tests.

Table 1. Key Icons and Elements found in this User Guide

Icon	Description
	This symbol accompanies helpful information or reminders.
	Text that appears in gray outlined boxes provides instructions relevant to the task described. • Numbered (ordered) lists provide step-by-step instructions. • Bulleted lists provide instructions that do not need to be performed in a specific order.
[Text]	Text in brackets is used to indicate a link or button that is clickable.

Section I. Purpose of Sample Tests

The AzMERIT Sample Tests are a valuable resource for students and families, as well as district and school administrators and educators. The purpose of the Sample Tests is to allow various users to become familiar with the AzMERIT Computer-Based Testing (CBT) system and the different formats of AzMERIT test questions. It is important that students who will take the CBT AzMERIT test have an opportunity to take a CBT Sample Test prior to testing so they may become familiar with the types of questions they will encounter and the various tools available to use throughout the tests.

Anyone can access and take a CBT Sample Test by logging in as a guest user on the Sample Test page on the AzMERIT portal. Schools may also administer the Sample Tests using the Secure Browser in order to practice starting a test session and logging students into the CBT system.

Computer-Based Sample Tests are available by grade bands for each content area:

- Grades 3–5 ELA Writing and Reading
- Grade 6 Writing
- Grades 7–8 Writing
- Grades 6–8 ELA Reading
- High School ELA Writing and Reading
- Grades 3–4 Math
- Grades 5–6 Math
- Grades 7–8 Math
- High School Math

While the Sample Tests do present the various types of items students will encounter on the AzMERIT tests, the Sample Tests are not to be used as a predictor of performance on upcoming AzMERIT tests. The best way to prepare students is standards-based instruction. All of the items on AzMERIT are aligned to the Arizona College and Career Ready Standards for English Language Arts/Literacy and Math for each particular grade level. Answer keys are provided, however, responses on the sample tests will not be scored. More information on the standards and the AzMERIT testing structure and blueprint can be found on the Arizona Department of Education website at www.azed.gov.

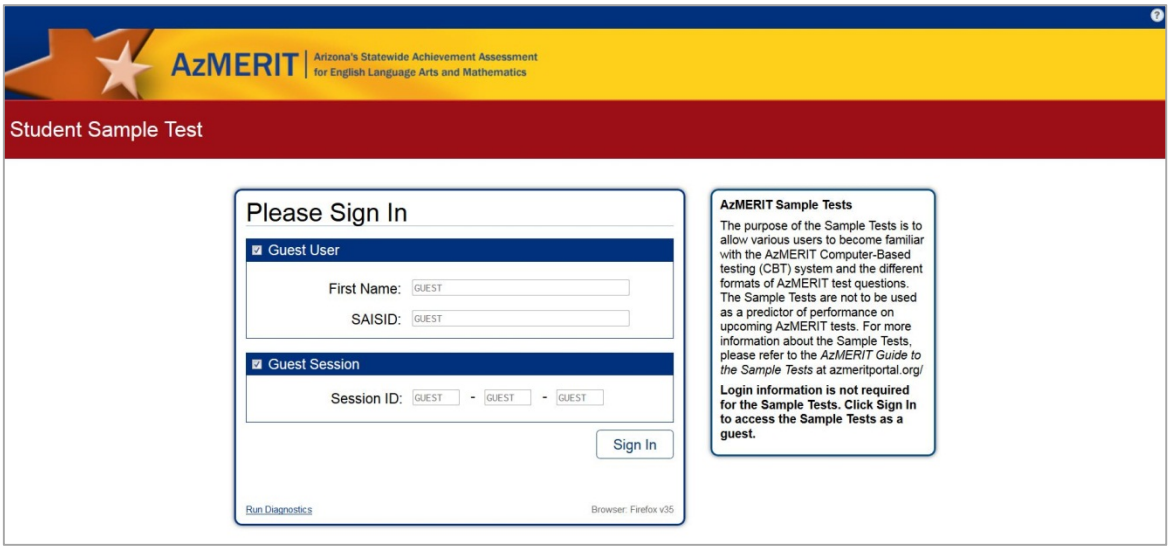
Certain item types on the CBT will be rendered differently on the Paper-Based Test (PBT). To view the various item types that will be on the PBT, other than multiple choice, please refer to Section VIII—Paper-Based Testing.

Section II. Logging In to the Sample Test Site

Users must use a supported web browser to access the Sample Tests. The supported web browsers for the Sample Tests are Firefox 10–30, Chrome 19–35, Safari 4–7, or Internet Explorer 10 or 11.

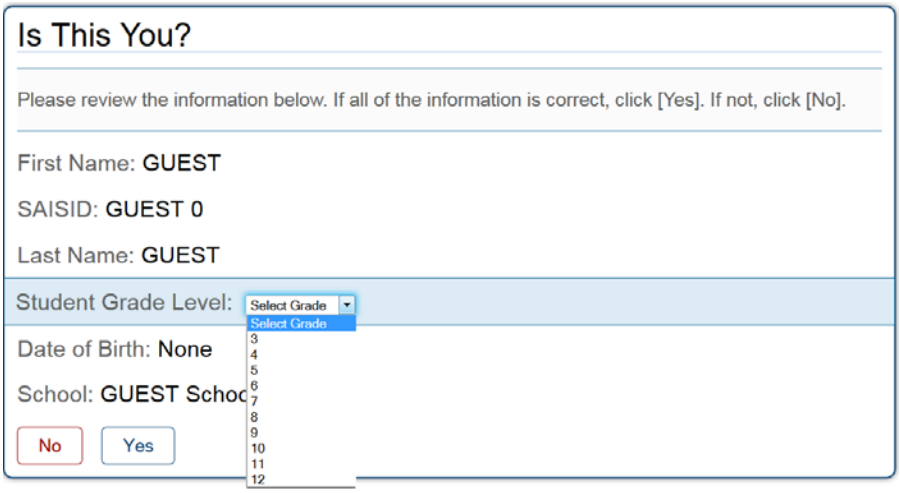
The instructions in this section are to be used when logging into the Sample Tests as a guest. For schools that want to access the Sample Tests using the Secure Browser, detailed instructions can be found in the *Test Administrator (TA) User Guide*, which can be found on the portal at **http://azmeritportal.org/resources/?section=2.**

1. **Open a supported web browser** on your computer or tablet.
2. **Navigate to the AzMERIT portal** (**http://azmeritportal.org/**).
3. Click [**Sample Tests**]. The ***Sample Tests login screen*** will load.
4. **Log in to the Sample Tests.** You will log in as a guest user.



   a. Click [**Sign In**]. After you log in, the ***Is This You?*** screen will appear.

5. **Select a grade level.**



a. From the *Student Grade Level* drop-down list, select a grade.

b. Click [**Yes**]. The ***Your Tests*** screen will appear.

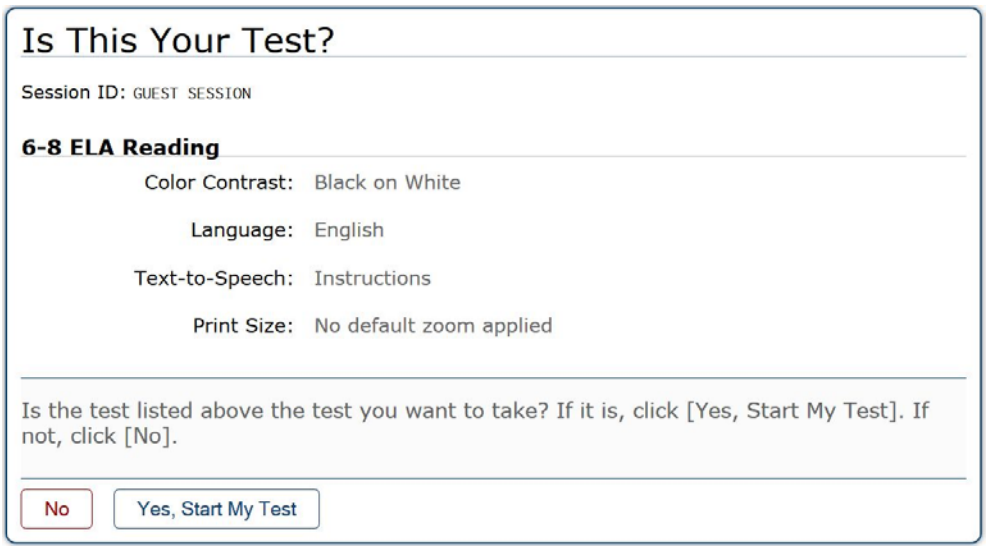
6. **Select an available test.**

The list of available tests depends on the grade level selected.

a. To select a test, click the test name. The ***Test Verification*** screen will appear.

Note: If the test you want to take is not displayed, click [**Back to Login**]. You will be logged out. Sign in again and select a different grade level.

7. **Verify your test information.**



a. Review the information on this page and verify that your test settings are correct.
   - If the test name or test settings are incorrect, click [**No**].
   - If the test name and test settings are correct, click [**Yes, Start My Test**] when you are ready to begin. The ***Test Instructions and Help*** screen will appear.
   - If you chose an ELA Reading test, you will be prompted to check the sound settings on your computer or device. After confirming you can hear the sound, click [**Yes**].

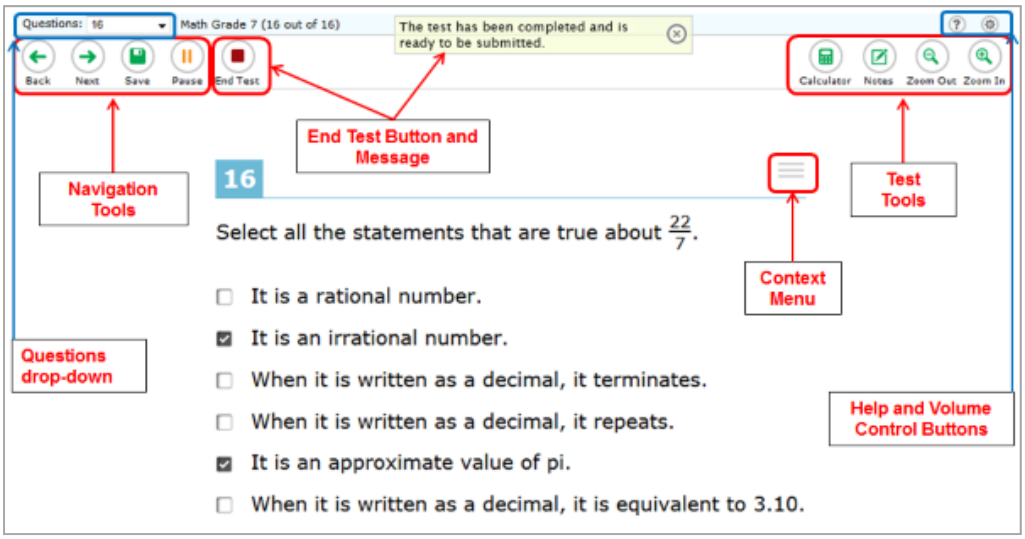
b. On the ***Test Instructions and Help*** screen, click [**Begin Test Now**].

Section III. Overview of Sample Test Features

This section provides an overview of what a test page might look like. Information about available test tools and how to access them is also provided.

Test Layout

This sample image for an ELA test shows the primary features and available tools



Each test has two major sections:

- **Global Menu bar** (contains global tools and navigation buttons, as well as the help button)
- **Test Content** (displays test content, including stimuli and items)
  - Some tools are available only by accessing a context menu for that passage or stimulus, item, or selected-response option. For more information, see the next page.

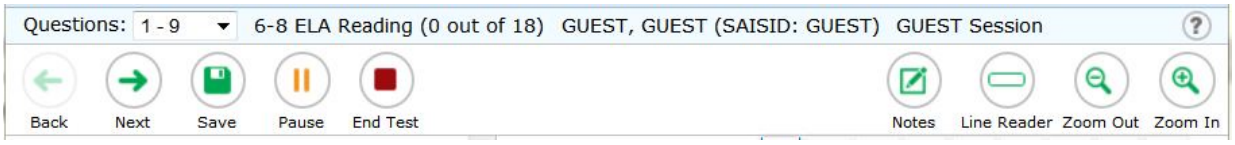
Global and Context Menus

The Global and Context Menus allow students to access on-screen tools. These tools can be accessed using a mouse or keyboard shortcuts. On tablets, the context menus are accessed via a Menu button. For information about keyboard shortcuts, refer to Section IV. Keyboard Navigation.

Global Menu

The Global Menu contains all the visible tools displayed at the top of the student's test screen. Most universal tools, as well as the student help button, are in the Global Menu.

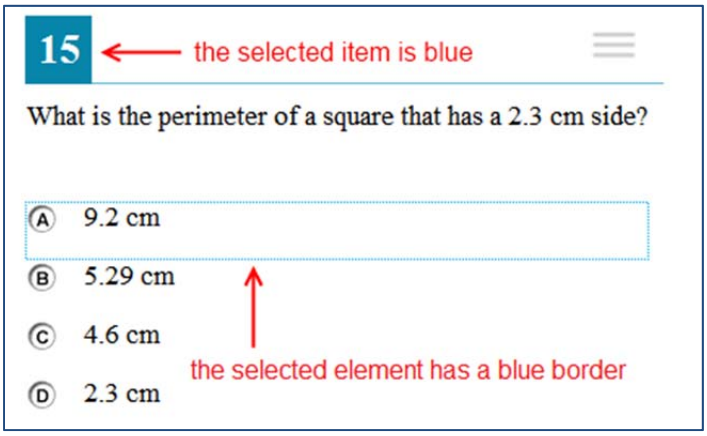
Sample Global Menu



Context Menus and Test Elements

Tools such as the highlighter and strikethrough option are accessed using context menus. The context menus contain the options available for each area of a test item on a page. These areas are called *elements*.

Overview of Elements for Multiple-Choice Items



Each element has its own context menu. Elements include passages or prompts, test items, and answer options (A, B, C, and D). Each answer option is a single element.

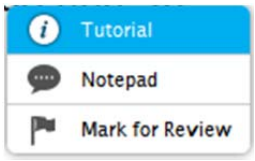
Opening a Context Menu

To view the context menu for an element using a mouse, simply right-click in that area. The context menu for that element will appear. (If students are using a single-button mouse, they should press the [**Ctrl**] key on the keyboard and then click.

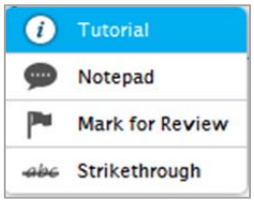
The context menu options vary depending on the following:

- The element type (passage, question, or answer option).
- The tools available to students.
- The test the student is taking.

Sample Context Menu for Questions



Sample Context Menu for Answer Options



General Test Tools

The following test tools are available:

- **Global Tools:** Global tools are those that appear at the top of the screen in the gray banner.
- **Stimulus/Question Tools:** These tools are specific to stimuli and questions and are accessed by clicking icons above an item or by right-clicking in the stimulus, question, or answer option areas.

Global Tools	Description
Help button	The [**?**] button at the top right will open the on-screen *Test Instructions and Help Guide* window.
Navigation buttons Back Next	The [**Back**] and [**Next**] buttons in the top left corner permit you to move between pages on a test. • For *Math* tests and *ELA Reading* tests, clicking the navigation buttons will permit you to move between questions. • For *ELA Writing* tests, clicking [**Next**] will prompt you to end the test.
Questions drop-down list Questions: 1 - 9	This feature enables you to quickly return to a specific test page. Questions that were marked for review will display "(marked)."
Question buttons 1 2 3 4 5	Some passages have multiple test questions. You can move between questions by using the Question buttons at the top right of the screen.
Save button *(Optional)*	The **[Save]** button allows you to manually save technology-enhanced questions. This is an optional feature. If you do not click this button, your answers will still be saved automatically.
Pause button	The **[Pause]** button allows you to pause and exit the test.
Notes button	Click the [**Notes**] button to open an on-screen notepad. You can enter notes for yourself and save them. These notes are global and will remain in the pop-up window throughout the test. *Note: The Notes tool is only available for the ELA tests.*
Zoom buttons	Use the [**Zoom In**] and [**Zoom Out**] buttons to increase and decrease the size of text and graphics within a single test page. Four levels of magnification are available.

Global Tools	Description
Line Reader button	Use the [**Line Reader**] button to highlight a single line of text at a time in passages and questions.
Writing Guide button	View the on-screen writing guide (Writing tests only).
Dictionary/Thesaurus button	Search the Merriam-Webster dictionary or thesaurus without leaving the test. (Writing test only)
Calculator button	Click the [**Calculator**] button to open the on-screen calculator. *Note: The calculator is available only for Part I of the Grades 7–8 Math and Parts I and II of the End-of-Course (EOC) Math tests.*
End Test button	Click this button to begin the process of submitting the test.

Stimulus/Question Tools	Description
Highlighter	Highlight a section of text in a passage or test question. • To highlight text, select text on the screen, right-click with the mouse, and select [**Highlight Selection**]. • To remove all highlighting from the question, right-click anywhere on the question and select [**Reset Highlighting**].
Mark for Review	Select **Mark for Review** from the question context menu. The question is labeled "(marked)" in the *Questions* drop-down list. To remove the (marked) status, select **Unmark Review Question**.
Student Comments	Each Math question has a tool that allows you to save a comment about the question. To access this tool, select **Notepad** from the question context menu. *Note: The Notepad tool is only available for the Math tests.*
Stimulus Expansion Tool	Some test pages have a passage on the left side of the page. You can expand this section. • Click the icon to expand the left section so that it takes up most of the screen. To collapse the section, click the double arrow icon again.

Stimulus/Question Tools	Description
Strikethrough	For multiple-choice questions, you can "eliminate" an option and focus on the options they think may be correct. • To *strikethrough* an answer option, right-click on the option and select [**Strikethrough**]. A line will appear through the text or image. • To *remove the strikethrough* from an answer option, right-click on the option and select [**Undo Strikethrough**].
Tutorial	Each question has a tutorial video that you can watch to learn more about responding to that type of question. To view the tutorial video, select **Tutorial** from the question context menu.
Text-to-Speech	Listen to test questions and answer options. This feature is only available for students that require a read aloud accommodation, and for whom Accommodated Text to Speech has been indicated in TIDE or the TA Interface prior to testing.

Section IV. Keyboard Navigation

Any student using a desktop, laptop, or Chromebook can use keyboard commands to navigate between test elements, features, and tools. Keyboard commands are not available for tablets.

Note: Keyboard commands require using the primary keyboard. If your keyboard contains a numeric keypad (often on the right side), do not use the keys in that area.

Keyboard Commands for Test Tools

Students can use these commands to navigate between test elements, features, and tools.

Button/ Image	Description of Function	Keyboard Commands
	Open the **GLOBAL MENU**	[**Ctrl**] + [**G**]
	Go to the **NEXT** test page	[**Ctrl**] + [→] (or use the Global Menu)
	Go to the **PREVIOUS** test page	[**Ctrl**] + [←] (or use the Global Menu)
	Move to the **NEXT ELEMENT** (on a page containing multiple test questions and/or a reading passage; on the writing test you will need to use the space bar if you want to indent a paragraph.)	[**Tab**]
	Move to the **PREVIOUS ELEMENT** (on a page containing multiple test questions and/or a reading passage)	[**Shift**] + [**Tab**]
A	Select **OPTION A**	[**Tab**] to move between answer choices. [**Space**] to select it as an answer.
B	Select **OPTION B**	
C	Select **OPTION C**	
D	Select **OPTION D**	
	ZOOM IN (increase the size of text and graphics on a page)	[**Ctrl**] + [**G**] (via Global Menu)
	ZOOM OUT (decrease the size of text and graphics on a page)	[**Ctrl**] + [**G**] (via Global Menu)
	Open the global **NOTES** tool (ELA Reading and ELA Writing only)	[**Ctrl**] + [**G**] (via Global Menu)
	Open the **CALCULATOR** (Grades 7, 8 and EOC Math tests only)	[**Ctrl**] + [**G**] (via Global Menu)

Button/ Image	Description of Function	Keyboard Commands
	PAUSE your test	[**Ctrl**] + [**G**] (via Global Menu)
	END TEST and submit it	[**Ctrl**] + [**G**] (via Global Menu)
	SCROLL UP in an area of the test page	[↑]
	SCROLL DOWN in an area of the test page	[↓]
	SCROLL to the **RIGHT** in an area of the test page	[→]
	SCROLL to the **LEFT** in an area of the test page	[←]
	Open the **CONTEXT MENU** (for the selected passage, question, or answer option)	[**Ctrl**] + [**M**]
	Open a **TUTORIAL** to view information about that question type	[**Ctrl**] + [**M**] (via Context Menu)
	Open the question **STUDENT COMMENTS** to enter a comment about that question (Math tests only)	[**Ctrl**] + [**M**] (via Context Menu)
	MARK/UNMARK a question for review	[**Ctrl**] + [**M**] (via Context Menu)
	HIGHLIGHTER (highlight text on the page)	[**Ctrl**] + [**M**] (via Context Menu)
	STRIKETHROUGH an answer option	[**Ctrl**] + [**M**] (via Context Menu)

Keyboard Commands for Test Selection Screens and Messages

Use these keyboard commands to select options on the login screens or on pop-up messages that appear during the test. For example, if you see a screen that has [**No**] or [**Yes**] buttons, you can use these keyboard commands to navigate between the buttons and select one.

Keyboard Command	Function
[**Tab**]	Move to the next option
[**Shift**] + [**Tab**]	Move to the previous option
[**Enter**]	Select the shaded option

Opening the Global Menu

To access the Global Menu with keyboard commands:

1. Press the [**Ctrl**] + [**G**] keys to view the Global Menu. The menu will appear on the screen.
2. Use the **Up** or **Down** arrow keys on your keyboard to move between options in the menu. Each option will be highlighted as you arrow up or down.
3. Press the [**Enter**] key to select the highlighted menu option.
4. Press the [**Esc**] key to close the Global Menu.

Opening the Context Menus

To access Context Menus with keyboard commands:

Navigating to an Element

1. Press the [**Tab**] key to navigate between questions, the answer options, and the reading passage.

Opening a Context Menu for an Element

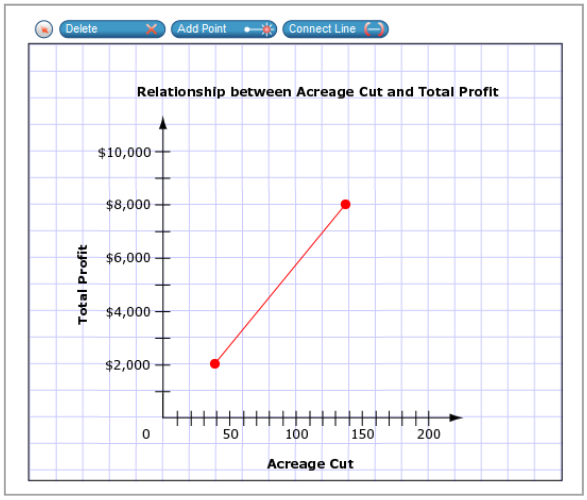
1. Press the [**Ctrl**] + [**M**] keys on the keyboard. The Context Menu for that element will appear.
2. Use the **Up** or **Down** arrow keys on your keyboard to move between options in the menu. Each option will be highlighted as you arrow up or down.
3. Press the [**Enter**] key to select the highlighted menu option.
4. Press the [**Esc**] key to close the Context Menu.

Keyboard Commands for Grid Items

Interactive items with an Add Point, Add Line or Add Arrow tool may have up to three main sections:

- Answer Space (the large area that takes up the most space)
- Action Button Row (at least one action button such as [**Add Point**] will be present at the top)
- Object Bank (a section on the left that includes objects to move to the Answer Space)

Figure 1. Sample Item with Point and Line Tools



To move between the main sections (Object Bank, Button Row, and Answer Space)

- Press the [**Tab**] key. Navigation is "clockwise" (from top to right to bottom to left).
- To move counter-clockwise, press [**Shift**] + [**Tab**].
- The "active" space or button will have a border.

To add an object from the Object Bank to the Answer Space:

- Make sure the Object Bank is active.
- Use the up and down arrows to move between available objects. The selected object will have a blue background.
- Press the [**space bar**] to add the selected object to the Answer Space.

To select an Action Button and place the object (point or line) in the Answer Space:

- Make sure the Button Row is active.
- Use the left or right arrow keys to move between action button options.
- Press [**Enter**].
- Press the [**space bar**] to apply the dot, arrow, or line to the Answer Space.

To move objects, points, lines, and arrows around in the Answer Space:

- Make sure the Answer Space is active.
- Press [**Enter**] to move between objects in the Answer Space. The selected object will have a border.
- Press the [**space bar**], then use the arrow keys to move the object.

To delete objects, points, lines, and arrows in the Answer Space:

- Make sure the Button Row is active.
- Press the left or right arrow to select the [**Delete**] button. The active button will turn white.
- Press [**Tab**] to move to the Answer Space.
- Press [**Enter**] to move between objects in the Answer Space. The selected object will have a border.
- Press the [**space bar**] to delete the object.

Section V. Item Types on Computer-Based Tests

This section contains sample item types that appear on the Sample Tests for AzMERIT. The following item types appear: editing task, grid, hot text, multiple-choice, multi-select, open-response, writing prompt, and equation.

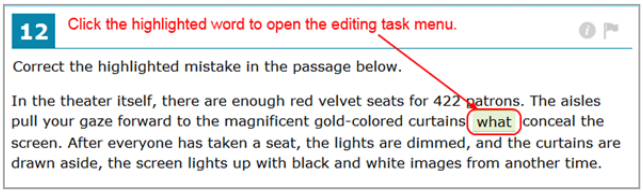
Note about technology-enhanced item types:
Students can manually save their answer before moving to the next item on the test. A [**Save**] button will appear at the top of the screen for these items. If students do not click [**Save**], the system will automatically save the responses when they move on to the next item or pause the test.

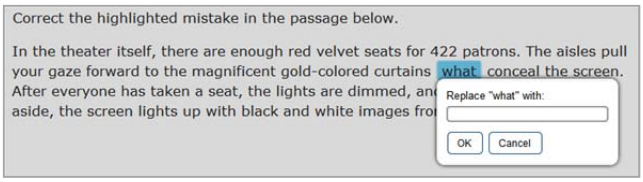
Editing Task Items

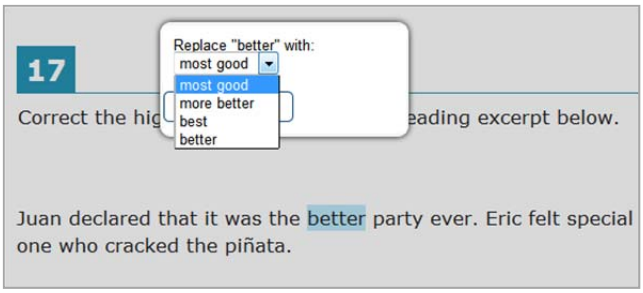
To answer responses for editing task items, click the highlighted word or phrase. (Typically, the highlighted word or phrase will have a light green background.)

Some editing task items require you to enter the replacement word or phrase.

Other editing task items require you to select the replacement word or phrase from a menu.







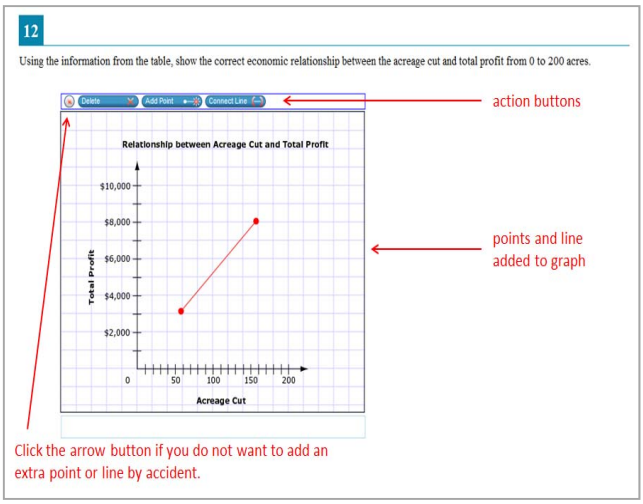
Grid Items with Action Buttons

Grid items require using point, line, or arrow buttons to create a response.

To add a point, click the [**Add Point**] button and then click on the location in the grid where the point should appear.

To add a line or arrow, click the [**Connect Line**] or [**Add Arrow**] button and then click on the desired beginning and end points of the line in the grid.

To delete a point, line, or arrow, click the [**Delete**] button and then click on the object you want to remove. (Clicking on a point will also remove

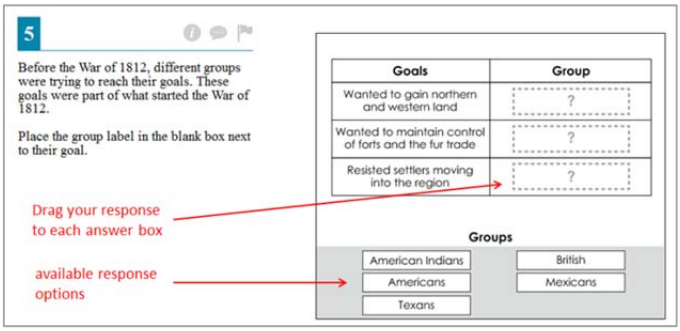


Note: The "active" action button is white.

adjacent lines.)

Hot Text Items

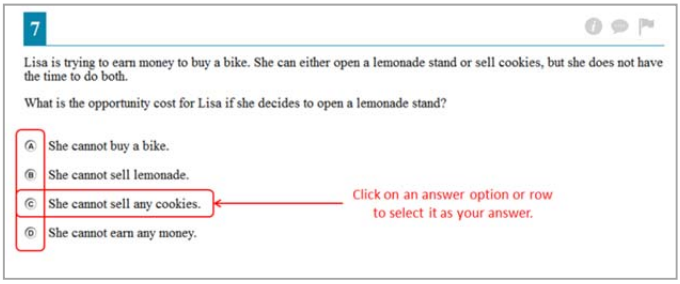
Hot Text items require you to either click on a response option or drag a response option to another location.



Multiple-Choice Items

Multiple-choice items require you to select a single answer option.

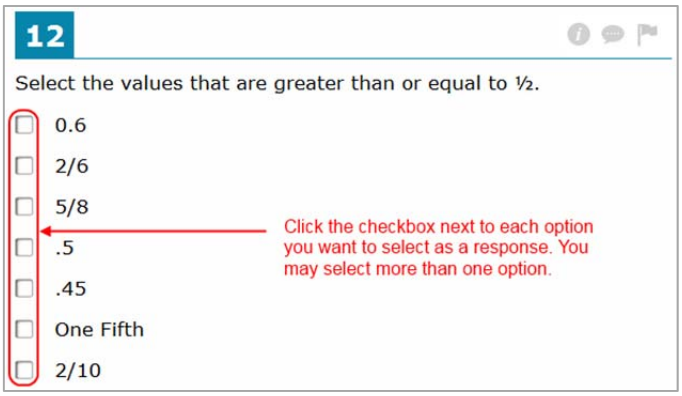
Note: You may click anywhere on the answer or click in the circle that contains A, B, C, or D. The selected answer circle will darken.



Multi-Select Items

Multi-select items allow you to select more than one answer option. These are different from multiple-choice items, which allow you to select only one response.

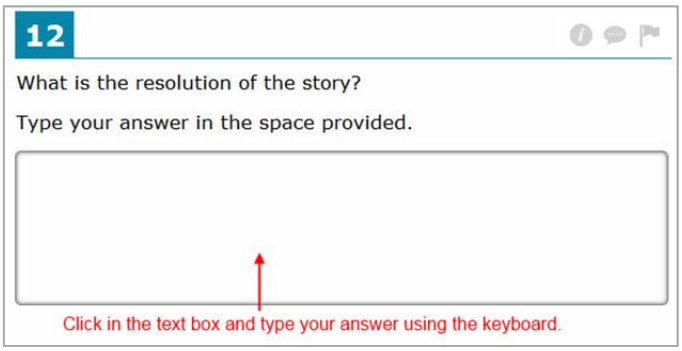
Note: Some items may ask you to select a specific number of responses.



Open-Response Items

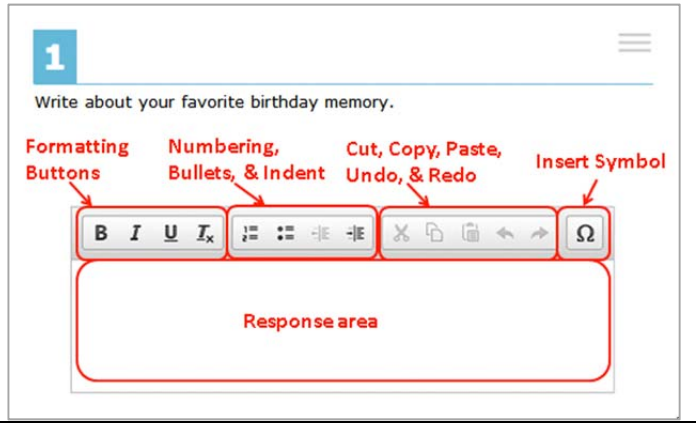
Open-response items require you to use the keyboard to enter the response into a text field.

Different types of open-response items may appear on the test.



Writing Prompt Items

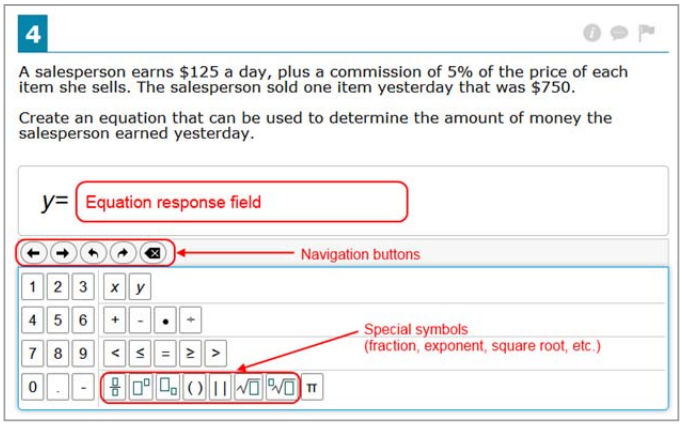
Writing prompt items will require you to use features of an online word processor. You can perform various tasks within the online word processor such as bold text, use bullet points, underline, etc. In order to indent a paragraph, you must press the space bar at least 5 times.



Equation Items

Equation items require you to enter a valid statement that answers the question, such as *y=3x+2*.

To enter an equation, click the button for each letter or symbol. The equation entered will be in blue text.



About the Navigation Buttons for Equation Items

Navigation Button	Description
Move Left	The straight left arrow button allows you to move the cursor before an existing character.
Move Right	The straight right arrow button allows you to move the cursor after an existing character.
Undo	The curved left arrow button allows you to undo the previous action.
Redo	The curved right arrow button allows you to redo the previous undone action.
Delete	The delete button allows you to delete characters.

About Special Symbols

Special symbols are easiest to use if entered prior to inserting text. To add a special symbol to an equation, select the corresponding button. After entering a number or symbol, use the “Move Left” and “Move Right” buttons to move the cursor between fields.

Special Symbol	Description
Fraction	This symbol allows you to enter a **fraction** into the equation editor. Select the numerator, then navigate to the denominator, and then select the value for that field.
Exponent	This symbol allows you to enter an **exponent** into the equation editor. After you enter the base number, select the exponent button, and then enter the exponent number.
Subscript	This symbol allows you to enter a **subscript** into the equation editor. After you enter the base number, select the subscript button, and then enter the subscript number.
Parentheses	This symbol allows you to enter **parentheses**. Once you select the symbol, the parentheses will appear in the equation editor. Then select the numbers and symbols that should appear between the open and close parentheses.
Absolute Value	This symbol allows you to enter an **absolute value**. Once you select the symbol, the lines will appear in the equation editor. Then select the numbers and symbols that should appear between the lines.
Square Root	This symbol allows you to enter a **square root** value. Once you select the symbol, the radical sign will appear in the equation editor. Enter the number that should appear under the radical sign.
n^{th} Root	This symbol allows you to enter an **n^{th} root** value. Once you select the symbol, the radical sign will appear in the equation editor. Enter the number that should appear under the radical sign. Use the straight left arrow to navigate to the nth field and enter the number that should appear there.

Section VI. Writing Guides for English Language Arts (ELA)

The AzMERIT ELA test will have a Writing part and a Reading Part 1 and Part 2 for all grade levels. The ***structure*** of the sample AzMERIT writing test is similar to the actual AzMERIT writing test. Each writing test will have one or more passages that relate to a prompt. Students will create a written response to the prompt. Students will not answer comprehension questions about the prompt. Scratch paper is permitted on both the CBT and PBT writing tests in order for students to compose a rough draft prior to formulating a "final" copy in the paper booklet or in the word processing area on the computer.

CBT— On the CBT students will have access to one or more passages that relate to a prompt, an electronic version of the Writing Guide and a word processing area to type their "final" response. On the CBT, students will have access to and be able to reference the appropriate Writing Guide by clicking on this icon→ .

PBT— On the PBT the students will have access to one or more passages that relate to a prompt, a print copy of the Writing Guide and a "final" copy area to write their response. On paper, the Writing Guide will also appear after the writing prompt and before the final copy area on the PBT. On the PBT, there will be two final copy pages with a line spacing of .375" for grades 3 and 4 (wide ruled) and .3" for grades 5–11 (college ruled).

The next several pages of this section contain Writing Guides for each grade-level band that will be available to students on AzMERIT.

Grades 3–5 Informative-Explanatory Essay Writing Guide

Statement of Purpose/ Focus and Organization	Evidence/Elaboration
The response is fully sustained and consistently and purposefully focused: • Controlling idea or main idea of a topic is focused, clearly stated, and strongly maintained. • Controlling idea or main idea of a topic is introduced and communicated clearly within the purpose, audience, and task. The response has a clear and effective organizational structure creating unity and completeness: • Use of a variety of transitional strategies to clarify the relationships between and among ideas. • Logical progression of ideas from beginning to end. • Effective introduction and conclusion for audience and purpose.	The response provides thorough and convincing support/evidence for the controlling idea or main idea that includes the effective use of sources, facts, and details: • Use of evidence from sources is smoothly integrated, comprehensive, and relevant. • Effective use of a variety of elaborative techniques. The response clearly and effectively expresses ideas, using precise language: • Use of academic and domain-specific vocabulary is clearly appropriate for the audience and purpose.
Editing/Conventions	
The response displays adequate command of all grade level and preceding level conventions of writing: • Some errors in usage and sentence formation may be present, but no systematic pattern of errors is displayed. • Use of punctuation, capitalization, and spelling is adequate.	

Grades 3–5 Opinion Essay Writing Guide

Statement of Purpose/ Focus and Organization	Evidence/Elaboration
The response is fully sustained and consistently and purposefully focused: • Opinion is clearly stated, focused, and strongly maintained. • Opinion is communicated clearly within the purpose, audience, and task. The response has a clear and effective organizational structure creating unity and completeness: • A variety of transitional strategies is consistently used to effectively clarify the relationships between and among ideas. • Logical progression of ideas from beginning to end. • Effective introduction and conclusion for audience and purpose.	The response provides thorough and convincing support/evidence for the writer's opinion that includes the effective use of sources, facts, and details: • Use of evidence from sources is smoothly integrated, comprehensive, and relevant. • Effective use of a variety of elaborative techniques. The response clearly and effectively expresses ideas, using precise language: • Use of academic and domain-specific vocabulary is clearly appropriate for the audience and purpose.
Editing/Conventions	
The response displays adequate command of all grade level and preceding level conventions of writing: • Some errors in usage and sentence formation may be present, but no systematic pattern of errors is displayed. • Use of punctuation, capitalization, and spelling is adequate.	

Grade 6 Argumentative Essay Writing Guide

Statement of Purpose/ Focus and Organization	Evidence/Elaboration	Editing/Conventions
The essay is fully developed and focused: • Claim is clearly stated, focused, and strongly maintained. • Claim is introduced and communicated appropriately for the purpose, audience, and task. The response has a clear and effective organizational structure: • A variety of transitional strategies are used to effectively clarify the relationships between ideas. • Development of ideas from beginning to end is logical. • Introduction and conclusion are effective for audience and purpose. • Appropriate sentence structure variety produces strong connections among ideas.	The essay provides thorough and convincing support/evidence for the writer's claim and includes the effective use of sources, facts, and details: • Claims are supported with clear reasoning and relevant evidence from credible sources. • Use of evidence from sources is complete and smoothly integrated and cited. • A variety of effective elaborative strategies are used. The response demonstrates strategic use of language to produce clear communication: • Precise language clearly and effectively expresses ideas. • Use of academic and topic-specific vocabulary is clearly appropriate for the audience and purpose.	The essay displays adequate command of all grade-level conventions of writing: • Some errors in usage and sentence formation may be present, but no systematic pattern of errors is displayed. • Use of punctuation, capitalization, and spelling is adequate.

References and Citations
When referring to evidence and information from passages, students should use paraphrasing and short quotations. To credit sources, students should use informal, in-text citations (e.g., MLA author or title tags).

Grades 6–8 Informative-Explanatory Essay Writing Guide

Statement of Purpose/ Focus and Organization	Evidence/Elaboration	Editing/Conventions
The essay is fully developed and focused: • Main idea is focused, clearly stated, and strongly maintained. • Main idea is introduced and communicated clearly for the purpose, audience, and task. The response has a clear and effective organizational structure: • A variety of transitional strategies are used to effectively clarify the relationships between ideas. • Development of ideas from beginning to end is logical. • Introduction and conclusion are effective for audience and purpose. • Appropriate sentence structure variety produces strong connections among ideas.	The essay provides thorough and convincing support/evidence for the controlling idea or main idea and includes the effective use of sources, facts, and details: • Use of evidence from sources is complete and smoothly integrated and cited. • A variety of effective elaborative strategies are used. The response demonstrates strategic use of language to produce clear communication: • Precise language clearly and effectively expresses ideas. • Use of academic and topic-specific vocabulary is clearly appropriate for the audience and purpose.	The essay displays adequate command of all grade-level conventions of writing: • Some errors in usage and sentence formation may be present, but no systematic pattern of errors is displayed. • Use of punctuation, capitalization, and spelling is adequate.

References and Citations
When referring to evidence and information from passages, students should use paraphrasing and short quotations. To credit sources, students should use informal, in-text citations (e.g., MLA author or title tags).

Grades 7–8 Argumentative Essay Writing Guide

Statement of Purpose/ Focus and Organization	Evidence/Elaboration	Editing/Conventions
The essay is fully developed and focused: • Claim is clearly stated, focused, and strongly maintained. • Claim is introduced and communicated appropriately for the purpose, audience, and task. • Opposing claims are clearly addressed. The response has a clear and effective organizational structure: • A variety of transitional strategies are used to effectively clarify the relationships between ideas. • Development of ideas from beginning to end is logical. • Introduction and conclusion are effective for audience and purpose. • Appropriate sentence structure variety produces strong connections among ideas.	The essay provides thorough and convincing support/evidence for the writer's claim and includes the effective use of sources, facts, and details: • Claims are supported with clear reasoning and relevant evidence from credible sources. • Use of evidence from sources is complete and smoothly integrated and cited. • A variety of effective elaborative strategies are used. The response demonstrates strategic use of language to produce clear communication: • Precise language clearly and effectively expresses ideas. • Use of academic and topic-specific vocabulary is clearly appropriate for the audience and purpose.	The essay displays adequate command of all grade-level conventions of writing: • Some errors in usage and sentence formation may be present, but no systematic pattern of errors is displayed. • Use of punctuation, capitalization, and spelling is adequate.

References and Citations
When referring to evidence and information from passages, students should use paraphrasing and short quotations. To credit sources, students should use informal, in-text citations (e.g., MLA author or title tags).

Grades 9–11 Informative-Explanatory Essay Writing Guide

Statement of Purpose/ Focus and Organization	Evidence/Elaboration	Editing/Conventions
The response is fully sustained and consistently and purposefully focused: • Controlling idea or main idea of a topic is focused, clearly stated, and strongly maintained. • Controlling idea or main idea of a topic is introduced and communicated clearly for the purpose, audience, and task. The response has a clear and effective organizational structure, creating unity and completeness: • A variety of transitional strategies are consistently used to effectively clarify the relationships between and among ideas. • Progression of ideas from beginning to end is logical. • Introduction and conclusion are effective for audience and purpose. • Appropriate sentence structure variety produces strong connections among ideas.	The response provides thorough and convincing support/evidence for the controlling idea or main idea that includes the effective use of sources, facts, and details. The response achieves substantial depth that is specific and relevant: • Use of evidence from sources is complete and smoothly integrated and cited. • A variety of effective elaborative techniques are used. The response demonstrates strategic use of language to produce clear communication: • Precise language clearly and effectively expresses ideas. • Use of academic and domain-specific vocabulary is clearly appropriate for the audience and purpose.	The essay displays adequate command of all grade-level conventions of writing: • Some errors in usage and sentence formation may be present, but no systematic pattern of errors is displayed. • Use of punctuation, capitalization, and spelling is adequate.

References and Citations
When referring to evidence and information from passages, students should use paraphrasing and short quotations. To credit sources, students should use informal, in-text citations (e.g., MLA author or title tags).

Grades 9–11 Argumentative Essay Writing Guide

Statement of Purpose/ Focus and Organization	Evidence/Elaboration	Editing/Conventions
The response is fully sustained and consistently and purposefully focused: • Claim is clearly stated, focused, and strongly maintained. • Claim is introduced and communicated appropriately for the purpose, audience, and task. • Alternate or opposing claims are clearly addressed. The response has a clear and effective organizational structure, creating unity and completeness: • A variety of transitional strategies are consistently used to effectively clarify the relationships between and among ideas. • Progression of ideas from beginning to end is logical. • Introduction and conclusion are effective for audience and purpose. • Appropriate sentence structure variety produces strong connections among ideas.	The response provides thorough and convincing support/evidence for the writer's claim, including the effective use of sources, facts, and details. The response achieves substantial depth that is specific and relevant: • Claims are supported with relevant evidence from credible sources and clear reasoning. • Use of evidence from sources is complete and smoothly integrated and cited. • A variety of effective elaborative techniques are used. The response demonstrates strategic use of language to produce clear communication: • Precise language clearly and effectively expresses ideas. • Use of academic and domain-specific vocabulary is clearly appropriate for the audience and purpose.	The response displays adequate command of grade-level and preceding-level conventions of writing: • Some errors in usage and sentence formation may be present, but no systematic pattern of errors is displayed. • Use of punctuation, capitalization, and spelling is adequate.

References and Citations
When referring to evidence and information from passages, students should use paraphrasing and short quotations. To credit sources, students should use informal, in-text citations (e.g., MLA author or title tags).

Section VII. Calculator Guidance—Math

The AzMERIT calculator guidance was determined with the input of Arizona educators who have reviewed AzMERIT items. The guidelines were determined to provide appropriate support for students while still measuring a student's mastery of the standards.

These guidelines are for the assessment only. They are not intended to limit instruction in the classroom. Technology is a part of the Arizona College and Career Ready Standards and students should still be interacting with technology as appropriate for engaging with and learning the standards.

The applicable portion of the CBT will include the acceptable online version of approved calculator. Providing handheld calculators is not a requirement for schools choosing the CBT. However, students may use an acceptable handheld calculator in addition to or instead of the online calculator.

Grades	Calculator Usage on AzMERIT Assessments
Grades 3–6	**No calculators permitted on AzMERIT.**
Grades 7–8	**Scientific Calculator permitted on AzMERIT Math Part 1 only. No calculators permitted on AzMERIT Math Part 2.** Scientific calculator should include these functions: standard four functions (addition, subtraction, multiplication, division), decimal, change sign (+/-), parentheses, square root, and π.They may NOT include any problem solving or programming capabilities, place values, and inequalities. Sample acceptable calculator: TI-30X IIS or similar.
High School End-of-Course Tests	**Graphing calculators permitted on AzMERIT Math Part 1 and Part 2.** No calculators with Computer Algebra System (CAS) features are allowed. Calculators may NOT be capable of communication with other calculators through infrared sensors. NO instruction or formula cards, or other information regarding the operation of calculators such as operating manuals are permitted. The memory of any calculator with programming capability must be cleared, reset, or disabled when students enter the testing room. If the memory of any calculator is password protected, and cannot be cleared or reset, the calculator may NOT be used. Sample acceptable calculators: TI-84 Plus, Casio FX-9750GII, or similar.
• No laptop, tablet, or phone based calculators will be allowed during the AzMERIT assessment. • Students are not allowed to share calculators during a testing session.	

Section VIII. Paper-Based Testing (PBT)

Consumable Booklets

AzMERIT is a Computer-Based Test (CBT). However, a Paper-Based Test (PBT) is available for schools that opted out of the CBT. The PBT will consist of consumable test booklets. This means that there will be ***no separate answer documents***; students will answer the questions ***directly*** in the test booklets, and the test booklets will be scanned in their entirety by the vendor.

Some technology-enhanced items are converted for use on the Paper-Based Tests. Below are samples of various item types that will appear on the Paper-Based version of AzMERIT. This section also includes sample "Final Copy" pages from the Paper-Based Writing Test.

Sample Paper Items—ELA

While some items in the ELA portion of the test are shown as individual sample items in this guide all items on the AzMERIT CBT and PBT will be associated with one or more passages. The AzMERIT ELA test will have a Writing part, Reading Part 1 and Reading Part 2 for all grade levels. On paper the students will have access to one or more passages that relate to the prompt, a print copy of the Writing Guide and a "Final Copy" area to write their response. Below are examples that show how many of the CBT items will render on the PBT.

Multiple-Choice

Read the sentence below.

Julie <u>noticed</u> a brown bag sitting on the table.

What is the meaning of the word <u>noticed</u> as it is used in the sentence?

Ⓐ placed

Ⓑ saw

Ⓒ took

Ⓓ used

Key: B

Multi-Select

Which **two** words mean the same as huge?

Ⓐ big

Ⓑ cozy

Ⓒ extra

Ⓓ large

Ⓔ tiny

Key: A, D

Sample Stimulus

Online Learning

1 Learning new things is an exciting part of life. Learning can happen anywhere. There are kids who learn at a school, kids who learn at home and some kids who learn online. Students who learn this way use their computers and the Internet to connect to online classrooms. They use a camera connected to their home computer to let the teacher and other students see them. They can see their teacher and classmates on their screens because their classmates and teacher use a camera, too.

2 Before the Internet, children in remote places sometimes had classes over the radio or used the mail to get lessons and return them. For example, in the past, children who lived in distant parts of Australia were taught using the radio. Every day at a certain time, they tuned in to a special radio station. All the children could hear their teacher at the same time, but they were hundreds of miles apart. They got their lessons in the mail, did their homework, and mailed it back to the teacher.

3 Today, students who live far away from their teacher have classes on the Internet. In some online classrooms, a classroom full of kids can use a special computer program at the same time as the teacher. The students can live in one country, and the teacher can be located in a different country. Still, it's just like a classroom at your school. The teacher can teach the kids. The kids can ask questions. Everyone can see and hear everything that's being said as it happens.

4 It is also possible for students to live in different places and be a part of an online class together. Each person goes to a website for the class they are taking. Thousands of people can watch and listen to this class at the same time. When they want to speak, they can use a microphone to ask and answer questions. When the lesson is completed and all good-byes have been said, the students and teacher in the online class log out. The connection over the Internet is broken, and the online classroom disappears.

5 Online classes can be held whenever is best for the teacher and students. Sometimes, they don't have to have a class where everyone is together all at once. There are classes where all the materials are posted on the website and students can use them whenever they need to. They can write questions and turn in their assignments. They can check back later to see if the teacher has left answers or comments on their work. No one ever actually "meets" anyone face-to-face, even if it's just with a web-camera. Many college classes are taught this way.

6 Internet classes can fit thousands of people, or just one person. It is a powerful way to let students everywhere learn. A student in Alaska and a student in China can go to the same class. That class can be taught by a teacher in Russia. You don't need a building, desks, lights or enough chairs to fit everyone. Students who live far apart, students who can't leave home, students who want to take a class they can't take nearby—all they need is a computer and an Internet connection and they're good to go!

Evidence-Based Selected Response

Part A

How has learning from distant places changed over time?

Ⓐ Students can ask questions and get answers faster.

Ⓑ Students can hear their teacher during the same class time.

Ⓒ Students use the mail to receive and send work.

Ⓓ Students live far apart from their classmates.

Part B

Select **one** sentence that supports the answer in part A.

Ⓐ "The students can live in one country, and the teacher can be located in a different country."

Ⓑ "All the children could hear their teacher at the same time, but they were hundreds of miles apart."

Ⓒ "They got their lessons in the mail, did their homework, and mailed it back to the teacher."

Ⓓ "Everyone can see and hear everything that's being said as it happens."

Ⓔ "Sometimes, they don't have to have a class where everyone is together all at once."

Key:
Part A: A
Part B: D

Two-Part Hot Text

Part A

How does the author support the idea that students who live far from each other can learn together?

Ⓐ She tells about why students should learn online.

Ⓑ She shares details about the way students learn online.

Ⓒ She gives examples of how online learning helps students.

Ⓓ She explains that the online classroom is only for a short time.

Part B

Fill in the circle before the **two** sentences that support the answer in part A.

4 Ⓐ It is also possible for students to live in different places and be a part of an online class together. Ⓑ Each person goes to a website for the class they are taking. Ⓒ Thousands of people can watch and listen to this class at the same time. Ⓓ When they want to speak, they can use a microphone to ask and answer questions. Ⓔ When the lesson is completed and all good-byes have been said, the students and teacher in the online class log out. Ⓕ The connection over the Internet is broken, and the online classroom disappears.

Key:
Part A: B
Part B: C, D

One-Part Hot Text

Select **one** sentence that explains how jump rope rhymes have spread.

Ⓐ Jumping rope is a fun game. Ⓑ To play, two people hold the ends of a rope and turn it. Ⓒ Others take turns jumping. Ⓓ Often, the turners call out rhymes for the jumpers. Ⓔ Some rhymes give the jumper directions. Ⓕ Some count how many times the jumper can jump before missing. Ⓖ Many rhymes have lasted a long time and spread to new places. Ⓗ Friends can teach each other rhymes, and children might learn them from their parents.

Key: H

Editing Task Stimulus

Koalas

Directions: **Read the following passage and answer Numbers 1 through 3. There are five underlined words or phrases in the passage to show which word or phrase may be incorrect.**

Koalas are animals that live in Australia. They <u>looked</u> a little bit like small bears, <u>but</u> they are not bears. They are brown or gray, with round, fluffy ears, and they have no tails. You have probably seen pictures of koalas. They are very popular because they are so cute.

Koalas are herbivores, which means they eat plants. They live in trees and love to climb. Koalas are <u>knowne</u> to sleep up to 20 <u>ours</u> a day.

Many people around the world visit zoos to see koalas. They can live 13 to 18 years in the wild, but the <u>older</u> zoo koala on record lived to be 23 years old.

Editing Task Questions

Directions: **Now answer Numbers 1 through 3. Choose the correct word or phrase for each of the following.**

1 **Part A**

They <u>looked</u> a little bit like small bears, but they are not bears.

Ⓐ look
Ⓑ will look
Ⓒ looks
Ⓓ Correct as is

Part B

They looked a little bit like small bears, <u>but</u> they are not bears.

Ⓐ or
Ⓑ nor
Ⓒ because
Ⓓ Correct as is

Key:
Part A: A
Part B: D

2 **Part A**

Koalas are <u>knowne</u> to sleep up to 20 ours a day.

Ⓐ knowen
Ⓑ known
Ⓒ none
Ⓓ Correct as is

Part B

Koalas are knowne to sleep up to 20 <u>ours</u> a day.

Ⓐ owers
Ⓑ howers
Ⓒ hours
Ⓓ Correct as is

Key:
Part A: B
Part B: C

3 They can live 13 to 18 years in the wild, but the <u>older</u> zoo koala on record lived to be 23 years old.

Ⓐ old
Ⓑ most old
Ⓒ oldest
Ⓓ Correct as is

Key: C

Writing Test Final Copy Pages (Grades 3–4)

W

SECURE MATERIALS–DO NOT COPY

FINAL COPY

Go On

Page 8 **Writing**

W

SECURE MATERIALS–DO NOT COPY

FINAL COPY

Stop

Writing Test Final Copy Pages (Grades 5–11)

W

SECURE MATERIALS–DO NOT COPY

FINAL COPY

Go On

Page 8 **Writing**

W

SECURE MATERIALS–DO NOT COPY

FINAL COPY

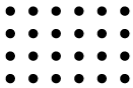
Stop

Sample Paper Items—Math

The AzMERIT Math test will have a Math Part 1 and a Math Part 2. On the CBT and the PBT some math items are open-ended and hand scored. The following samples will familiarize students with how items appear on the paper version of AzMERIT.

Multiple Choice

A model is shown.



Which expression does this model represent?

Ⓐ 4 + 6

Ⓑ 4 – 6

Ⓒ 4 × 6

Ⓓ 4 ÷ 6

Key: C

Equation Item

A classroom has 5 rows of desks. There are 6 desks in each row.

Create a multiplication equation that shows the number of desks in the classroom.

Write your equation in the box below.

Key: 5 × 6 = 30 or 6 × 5 = 30 are accepted.

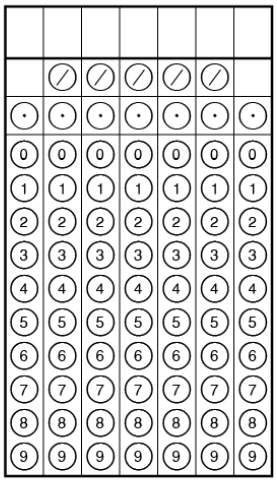
Note: Equation may be reversed.

Equation Item

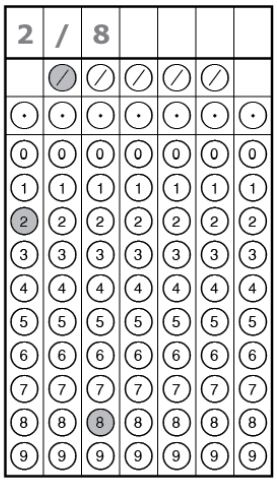
A fraction is shown.

$$\frac{1}{4}$$

Create an equivalent fraction with a denominator of 8.



Key:



Note: Empty columns are ignored.

The purpose of the boxes above the grid are an aid to bubbling but are not scored.

Table Item

Complete the table to show each of the given numbers rounded to the nearest ten and the nearest hundred.

Number	Nearest Ten	Nearest Hundred
62		
115		

Key:

Number	Nearest Ten	Nearest Hundred
62	**60**	**100**
115	**120**	**100**

Open Response Item

A rectangle can be covered by 15 unit squares.

What can be said about the area of the rectangle?

Write your equation in the box below.

Key: The student correctly explained the relationship between the "15 unit squares" and the area of the rectangle (and did not include any incorrect statements).

Note: Any response that states that the area of the rectangle is 15 unit squares is accepted.

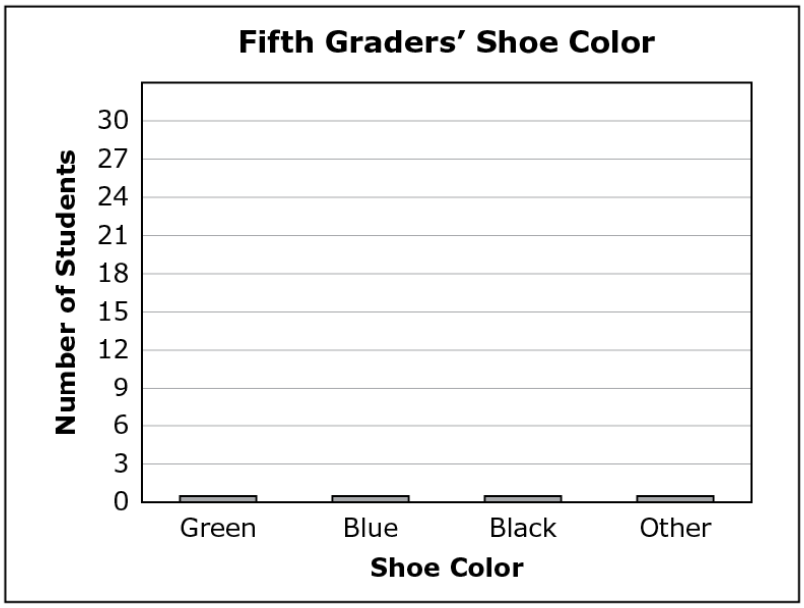
Grid Item

The table shows the shoe color of fifth graders at an elementary school.

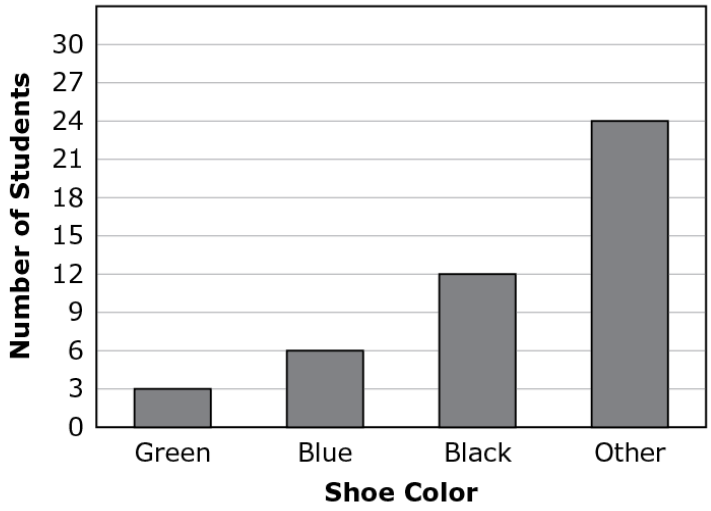
Shoe Color of Fifth Graders

Shoe Color	Number of Students
Green	3
Blue	6
Black	12
Other	24

Complete the bar graph to display the data from the table.



Key:



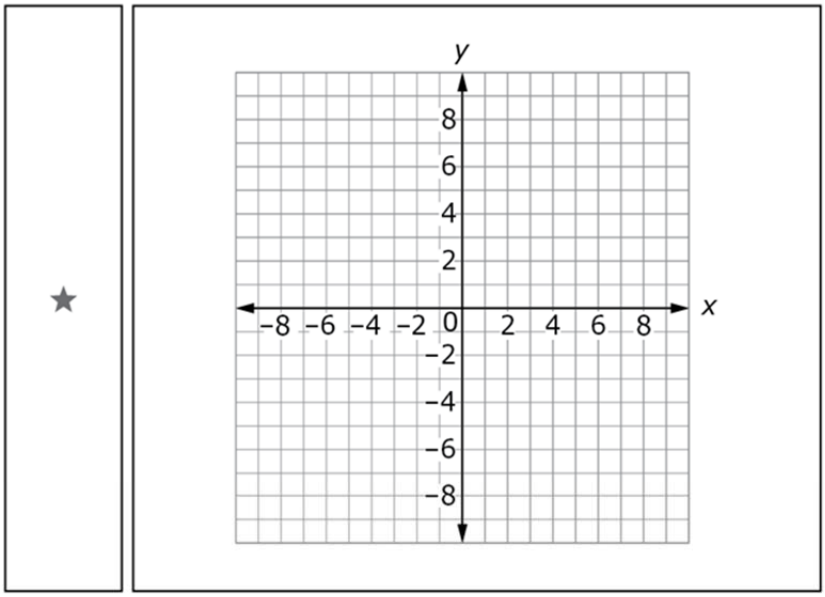
Grid Item

A system of equations is shown.

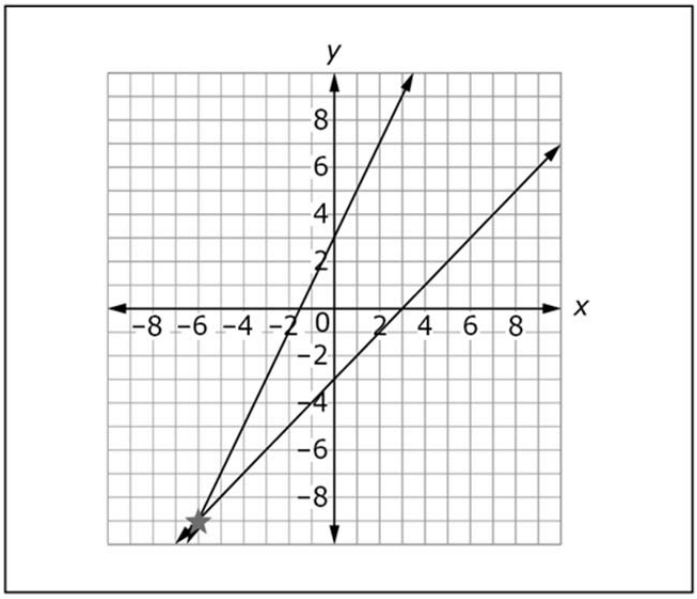
$$y = 2x + 3$$
$$x - y = 3$$

Draw lines to graph the system.

Then draw a star to indicate the solution of the system.



Key:



Hot Text Item

The names of five shapes are shown.

Write a letter of a number in each empty box to order the shapes from least number of angles to greatest number of angles.

Shapes
A. Hexagon
B. Octagon
C. Pentagon
D. Rhombus
E. Triangle

	Ordered Shapes
Least ↓ **Greatest**	

Key:

Shapes
A. Hexagon
B. Octagon
C. Pentagon
D. Rhombus
E. Triangle

	Ordered Shapes
Least ↓ **Greatest**	E
	D
	C
	A
	B

Matching Item

Select the product for each expression.

	12	16	18
4 × 4	A	B	C
6 × 2	D	E	F
4 × 3	G	H	I
6 × 3	J	K	L
8 × 2	M	N	O

Key:

	12	16	18
4 × 4	A	**B**	C
6 × 2	**D**	E	F
4 × 3	**G**	H	I
6 × 3	J	K	**L**
8 × 2	M	**N**	O

Section IX. CBT Sample Test Answer Keys

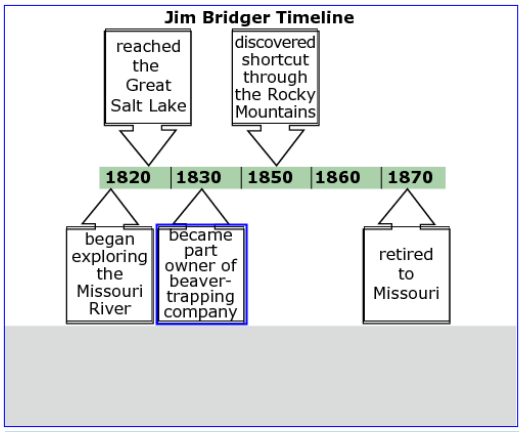
Grades 3–5 ELA Reading

Question #	Item Type	Answer Key/Correct Answer
1	Multiple-Choice	A
2	Multiple-Choice	B
3	Hot Text	The student correctly identified two sentences. • The teacher can teach the kids. • The kids can ask questions. • Everyone can see and hear everything that's being said as it happens. .
4	Natural Language	The student correctly identified a main idea of paragraph 4 that meets the requirements of the rubric. • People living in different places can have online class. • People living far away can become/join class online. • People living far away can have class online. • People living in different places can become/join an online class. • Classes can have people/students from anywhere. • People can learn from anywhere.
5	Two-Part Hot Text	*Part A:* The student correctly identified option B in Part A. *Part B*: The student correctly identified two sentences that support the correct answer in Part B. • Thousands of people can watch and listen to this class at the same time. • When they want to speak, they can use a microphone to ask and answer questions.
6	Hot Text	They can write questions and turn in their assignments.
7	Multi-Select	C; E
8	Grid Item	Any response where the camera and computer are placed in the box.
9	Multi-Select	A; D
10	Evidence-Based Selected Response	*Part A:* The student correctly selected option A. *Part B*: The student correctly selected option D.
11	Multiple-Choice	A

Question #	Item Type	Answer Key/Correct Answer
12	**Multiple-Choice**	B
13	**Multi-Select**	A; D; E
14	**Editing Task**	*Part A:* The student correctly selected “look” for the first option. *Part B:* The student correctly selected “but” for the second option.
15	**Editing Task**	*Part A:* The student correctly selected “known” for the first option. *Part B:* The student correctly selected “hours” for the second option.
16	**Editing Task**	The student correctly selected “oldest.”

Grades 6–8 ELA Reading

Question #	Item Type	Answer Key/Correct Answer
1	**Multiple-Choice**	A
2	**Two-Part Hot Text**	*Part A:* The student correctly identified option D. *Part B:* The student correctly identified two phrases that support the correct answer in Part B. • often unbelievable • outrageous stories
3	**Natural Language**	*Part A:* The student correctly identified why "peetrified" is used in the sentence. • To explain/show/emphasize/tell how Bridger/he talks/talked/speaks/spoke. *Part B*: The student did not include any incorrect statements.
4	**Multiple-Choice**	D
5	**Evidence-Based Selected Response**	*Part A:* The student correctly selected option C for Part A. *Part B:* The student correctly selected option B for Part B.
6	**Multi-Select**	A; C; E
7	**Multiple-Choice**	B
8	**Draggable Hot Text**	The student correctly identified three sentences (in order) to complete a summary of the passage. • As a young man, Bridger helped explore parts of what is now the western United States. • Bridger became a successful beaver trapper famous for his tall tales. • Bridger worked as a guide and discovered a shortcut through the Rocky Mountains.

Question #	Item Type	Answer Key/Correct Answer
9	**Grid Item**	Place the phrases about Jim Bridger's life in the correct locations on the timeline.  The student correctly places five events from Jim Bridger's life in the correct order on the time line.
10	**Editing Task**	The student correctly entered a phrase to complete the sentence accurately: • volleyball, named • volleyball. It was named • volleyball; it was named
11	**Editing Task**	*Part A:* The student correctly entered "volleyball" for the first option. *Part B*: The student correctly entered "their" for the second option.
12	**Editing Task**	*Part A:* The student correctly entered "world, has" for the first option. *Part B:* The student correctly entered "frequent" or "often" for the second option.
13	**Editing Task**	The student correctly identified "us" as the correction.
14	**Editing Task**	*Part A:* The student correctly selected "various feathers from" for the first option. Part B: The student correctly selected "China, while" for the second option.
15	**Editing Task**	*Part A:* The student correctly selected "promotes" for the first option. *Part B*: The student correctly selected "protection," for the second option.
16	**Multiple-Choice**	A

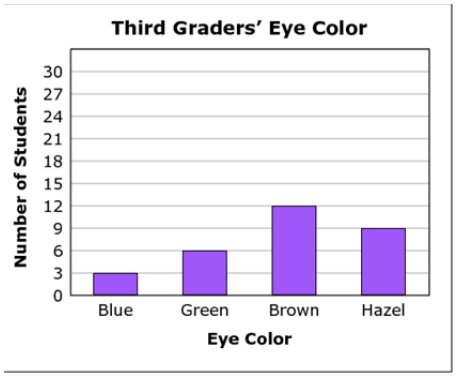
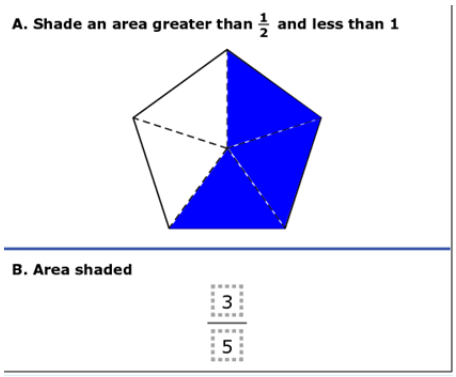
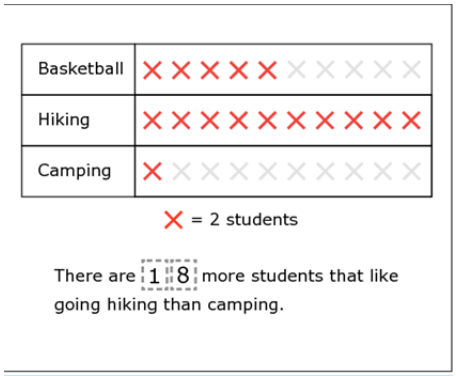
Question #	Item Type	Answer Key/Correct Answer
17	**Multi-Select**	C; D
18	**Multiple-Choice**	C

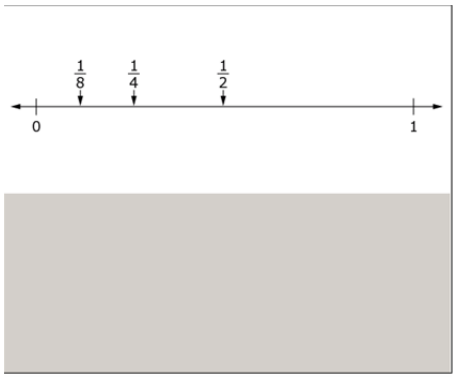
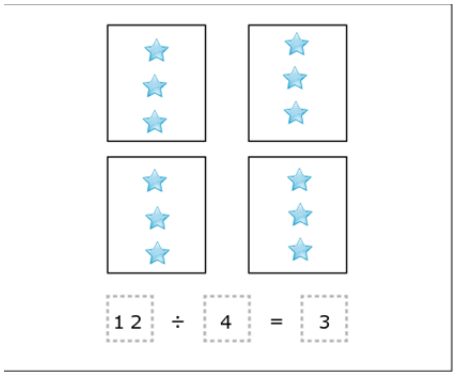
Grades 9–11 ELA Reading

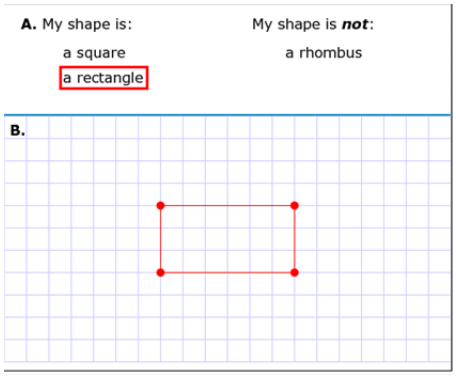
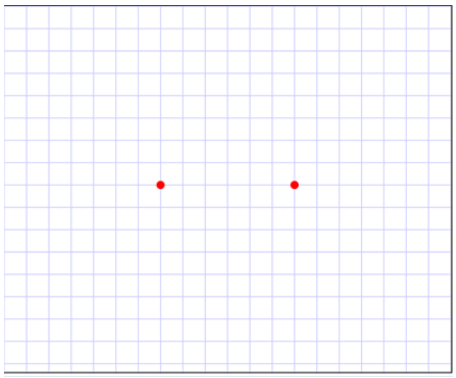
Question #	Item Type	Answer Key/Correct Answer
1	**Multiple-Choice**	C
2	**Multiple-Choice**	B
3	**Evidence-Based Selected Response**	*Part A*: The student correctly selected option A. *Part B*: The student correctly selected option B.
4	**Hot Text**	The student correctly identified two details: • the way the expanse of water stretched out so far into the distance that it seemed to go on forever. OR • Who knew what lay beneath it all? OR • with the utter vastness of the ocean itself,
5	**Two-Part Hot Text**	*Part A:* The student correctly identified option B. *Part B*: The student correctly identified one detail that supports the correct answer in Part B. • I was certain that I had passed some boundary and entered a world where I did not belong.
6	**Natural Language**	The student correctly identified what the reader learns about the narrator in the last paragraph. • The narrator is determined/resolved/willing to take chances. • She is ready to try new things/face challenges/face her fears. The student did not include any incorrect statements.
7	**Multi-Select**	B; C
8	**Grid Item**	*Part A:* The student correctly places the characteristics of the Narrator in the diagram. • Reflective • cautious *Part B*: The student correctly places the characteristics of Cassie in the diagram. • adventurous • sure *Part C*: The student correctly places the characteristics of Both in the diagram. • determined • Impressed by the ocean

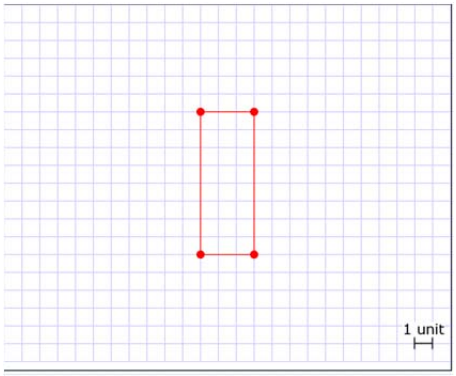
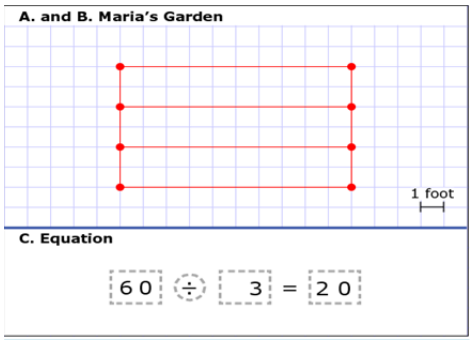
Question #	Item Type	Answer Key/Correct Answer
9	**Draggable Hot Text**	The student correctly identified four sentences in order to complete a summary of the passage. • A high school student goes snorkeling with her friend. • The narrator is concerned about the prospect of leaving for college. • The narrator is hesitant to snorkel because she has not enjoyed it in the past. • The narrator decides to trust her friend and go snorkeling even though she is afraid.
10	**Multiple-Choice**	C
11	**Multiple-Choice**	A
12	**Multi-Select**	A;C
13	**Editing Task**	*Part A:* The student correctly entered "comforter" for the first option. *Part B*: The student correctly entered a phrase to complete the sentence accurately for the second option. • found • to be found • that are/can be found • that one/we/you can find
14	**Editing Task**	*Part A:* The student correctly entered "for" for the first option. *Part B*: The student correctly entered "past," for the second option.
15	**Editing Task**	The student correctly entered a word or phrase to complete the sentence accurately: • feathers; • feathers, and/but/while/whereas
16	**Editing Task**	*Part A:* The student correctly selected "sports: tennis" for the first option. *Part B*: The student correctly selected "volleyball; the name" for the second option.
17	**Editing Task**	Brazil, players
18	**Editing Task**	*Part A:* The student correctly selected "world, and it" for the first option. *Part B*: The student correctly selected "since 1964" for the second option.

Grades 3–4 Math

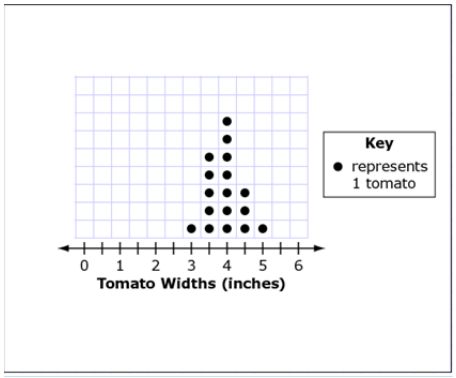
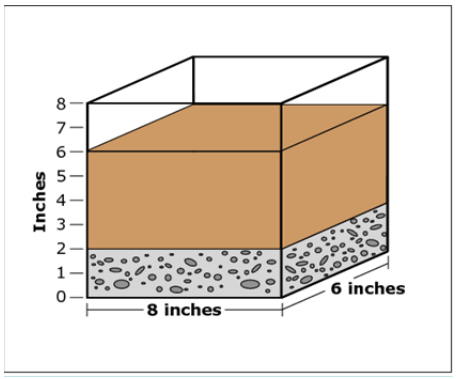
Question #	Item Type	Answer Key/Correct Answer
1	Grid Item	
2	Multi-Select	A; D; F
3	Multi-Select	A; D
4	Equation	38; 36 *Responses may be in any order.*
5	Grid Item	 *Part A: Any 3 or 4 sections are shaded.* *Part B: A correct fraction based on the shaded pentagon in Part A.*
6	Grid Item	

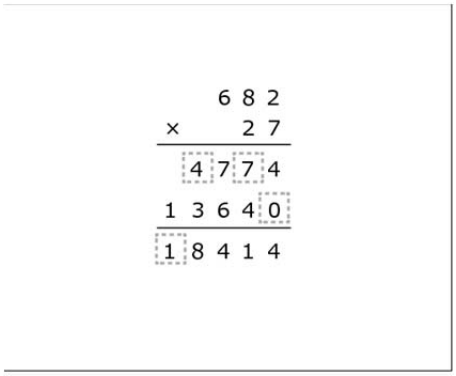
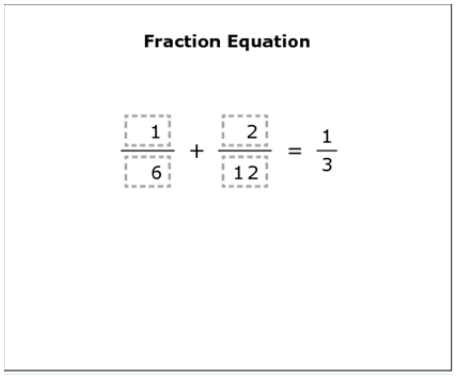
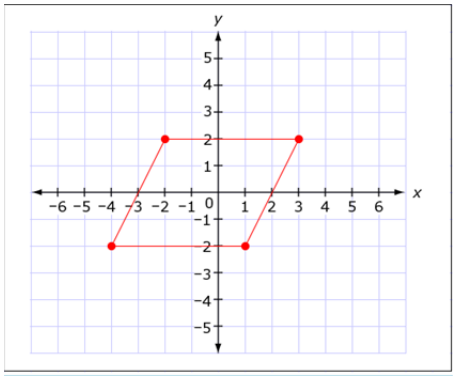
Question #	Item Type	Answer Key/Correct Answer
7	**Multiple-Choice**	C
8	**Natural Language**	All three sides are the same length. *Any statement that includes that all three sides are the same is accepted and does not include any incorrect statements.*
9	**Grid Item**	
10	**Multiple-Choice**	D
11	**Multiple-Choice**	A
12	**Grid Item**	 *Stars: The three stars can be in any orientation in each solid box. Numbers in the solid boxes are ignored.* *Equation:* $12 \div 3 = 4$ *is also accepted. Stars in dashed boxes are ignored.*

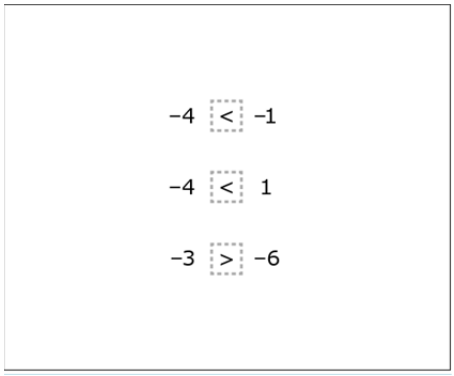
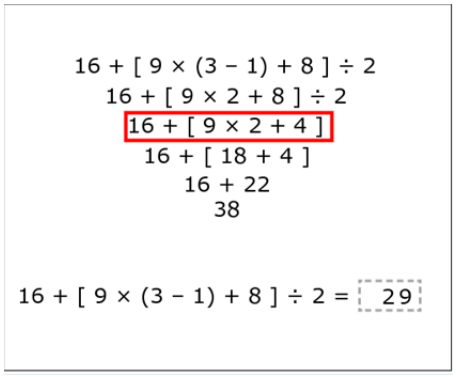
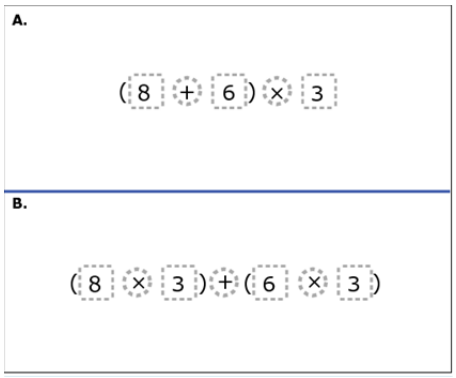
Question #	Item Type	Answer Key/Correct Answer
13	**Grid Item**	 *Any rectangle that is not a square is accepted.*
14	**Grid Item**	 *Any 2 points 6 units apart are accepted.*
15	**Equation**	$48 \times 28 = 1344$ *Any equivalent equation based on the commutative property is also accepted.*
16	**Equation**	$(40 + 4)(30 + 7)$; 1628 *Any expression equivalent to 1628 that contains multiplication is accepted.* *Response may be in any order.*

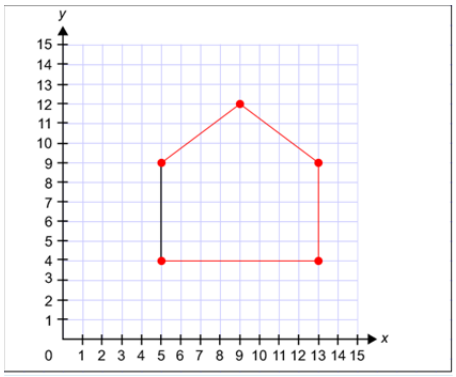
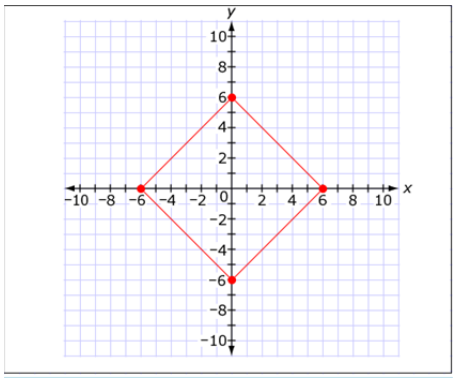
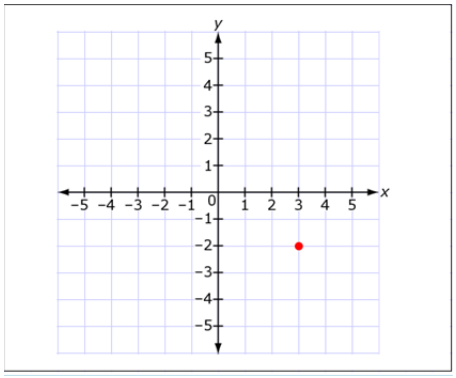
Question #	Item Type	Answer Key/Correct Answer
17	**Grid Item**	 *Any rectangle with an area of 24 square units is accepted.*
18	**Grid Item**	 *Any large rectangle with an area of 60 that is divided into equal rows, whether horizontally or vertically, is accepted. Any equation based on the diagram is accepted.*
19	**Table**	**Number** / **Rounded to the Nearest 10** / **Rounded to the Nearest 100** 794 / 790 / 800 506 / 510 / 500 97 / 100 / 100
20	**Matching**	**Prime** / **Composite** **12** ☐ ☑ **35** ☐ ☑ **17** ☑ ☐ **41** ☑ ☐ **72** ☐ ☑
21	**Equation**	3; 180

Grades 5–6 Math

Question #	Item Type	Answer Key/Correct Answer
1	Equation	243; 243
2	Multi-Select	A; D; E; F
3	Multi-Select	A; C; D
4	Equation	$a \times 10 = e$ *Any equivalent equation is accepted.*
5	Equation	$3A = B$ *Any equivalent equation is accepted.*
6	Grid Item	
7	Grid Item	 *Models showing the top of the soil from 5 to 7 inclusive are accepted.*

Question #	Item Type	Answer Key/Correct Answer
8	**Grid Item**	
9	**Grid Item**	 *Any valid equation with two fractions with different denominators is accepted.*
10	**Grid Item**	 *Parallelograms with the fourth vertex located at (6, -2) or (0, 6) are also accepted.*
11	**Natural Language**	The area of the triangle is half the area of the square. *The student states that the area of the triangle is half the area of the square or the area of the square is twice the area of a triangle.* *The student did not make an incorrect statement.*

Question #	Item Type	Answer Key/Correct Answer
12	**Grid Item**	
13	**Grid Item**	
14	**Grid Item**	 *Part A: Any equivalent expression based on the commutative properties is accepted.* *Part B: Any equivalent expression based on the commutative properties is accepted.*
15	**Equation**	$A + 10 = B; B - 10 = A$ *Any pair of equations that are both equivalent to $A + 10 = B$ and are different from one another apart from the commutative properties is accepted.*
16	**Equation**	$M = 2P$ *Any equivalent equation is accepted.*

Question #	Item Type	Answer Key/Correct Answer
17	**Multiple-Choice**	D
18	**Grid Item**	 *Any pentagon satisfying the stem requirements is accepted.*
19	**Equation**	$\frac{5}{12}; \frac{1}{6}$ *Any two fractions whose sum is* $\frac{7}{12}$ *and have different denominators are accepted.*
20	**Grid Item**	
21	**Multiple-Choice**	C
22	**Grid Item**	

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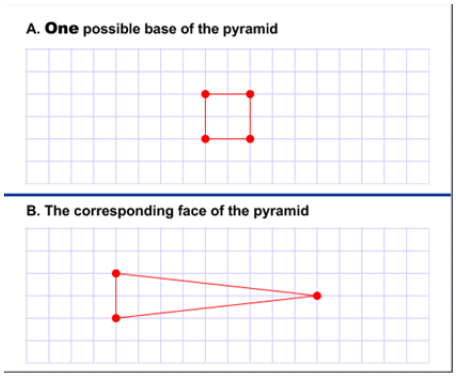
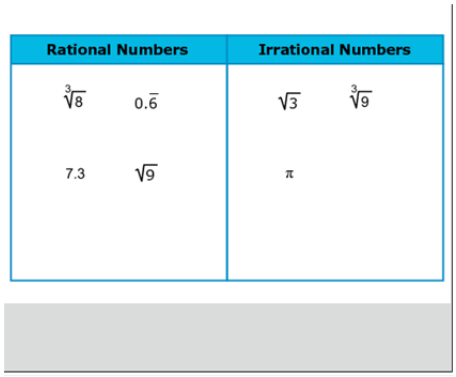
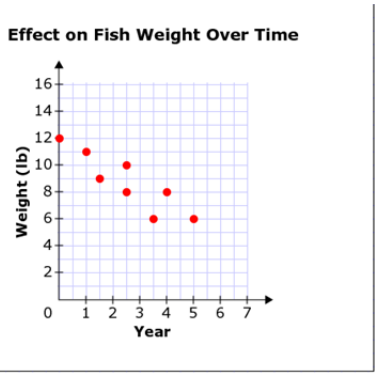
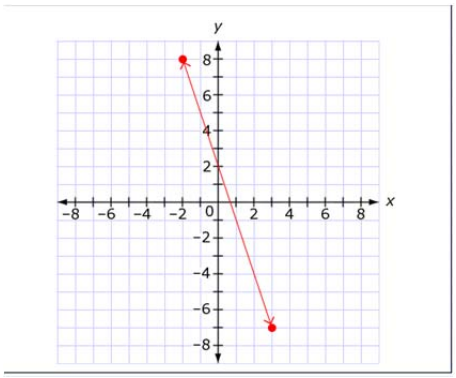
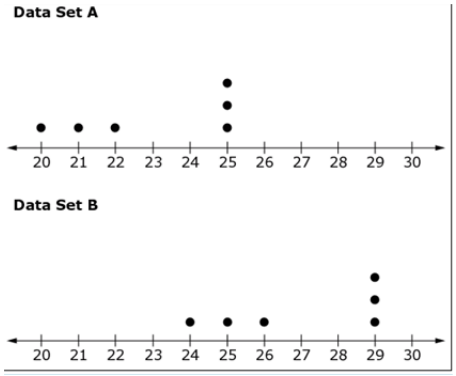
<tr><th>Question #</th><th>Item Type</th><th>Answer Key/Correct Answer</th></tr>
<tr><td>23</td><td>Table</td><td>
<table>
<tr><th>t</th><th>d</th></tr>
<tr><td>1</td><td>65</td></tr>
<tr><td>2</td><td>130</td></tr>
<tr><td>3</td><td>195</td></tr>
</table>
</td></tr>
<tr><td>24</td><td>Matching</td><td>
<table>
<tr><th></th><th>Greater than 3</th><th>Equal to 3</th><th>Less than 3</th></tr>
<tr><td>$3 \times \frac{1}{2}$</td><td>☐</td><td>☐</td><td>☑</td></tr>
<tr><td>$3 \times 1\frac{1}{4}$</td><td>☑</td><td>☐</td><td>☐</td></tr>
<tr><td>$3 \times \frac{6}{6}$</td><td>☐</td><td>☑</td><td>☐</td></tr>
<tr><td>$3 \times \frac{3}{2}$</td><td>☑</td><td>☐</td><td>☐</td></tr>
</table>
</td></tr>
<tr><td>25</td><td>Equation</td><td>$\frac{14}{15}$; $\frac{1}{15}$</td></tr>
</table>

Grades 7–8 Math

Question #	Item Type	Answer Key/Correct Answer
1	Grid Item	 *Any square in Part A with a side length of 2 with any isosceles triangle in Part B with a base of 2 and a height of 9 or any square in Part A with a side length of 4 inches with any isosceles triangle in Part B with a base of 4 and a height of 3 is also accepted..*
2	Multiple-Choice	B
3	Multiple-Choice	B
4	Grid Item	
5	Equation	$\frac{1}{9}$ *Any positive fraction equivalent to $\frac{1}{9}$, $\frac{1}{7}$, or $\frac{1}{6}$, or any negative fraction that meets all three parameters and where the denominator is not exclusively a multiple of 2 and/or 5 is accepted.*

Question #	Item Type	Answer Key/Correct Answer
6	**Grid Item**	 *Any scatter plot that contains 8 data points and has a negative association is accepted.*
7	**Multi-Select**	A; B; C
8	**Equation**	$\frac{1}{250}$ *Any expression with a value equivalent to* $\frac{1}{250}$ *is accepted.*
9	**Grid Item**	 *Any line with a slope of* -3 *and a y-intercept of* 2 *is accepted.*
10	**Equation**	200 *Any expression with a value equivalent to 200 is accepted.*
11	**Multi-Select**	A; D; E
12	**Natural Language**	The variable *b* is odd. Since *a* is negative, *b* must be odd otherwise *a* raised to an even power would mean *c* is positive. *The student states that b is an odd number or that b is not divisible by 2 with an explanation that states that a and c cannot both be negative unless b is odd.* *The student did not make an incorrect statement.*

Question #	Item Type	Answer Key/Correct Answer
13	**Grid Item**	 *Any data set with 6 data points, a mean absolute deviation of 2, and a mean of 27 is accepted.*
14	**Grid Item**	$-4 \times 3 - 5^3 < \lvert -4 \times 3 - 5^3 \rvert$ $-4 \times 3 - 5^3 > -4 \times \lvert 3 - 5^3 \rvert$ *First inequality: Any of the following expressions are accepted.* • $-4 \times 3 - 5^3 < \lvert -4 \times 3 - 5^3 \rvert$ • $-4 \times 3 - 5^3 < \lvert -4 \times 3 \rvert - 5^3$ • $-4 \times 3 - 5^3 < \lvert -4 \rvert \times 3 - 5^3$
15	**Equation**	$a = 20d + 43$ *Any equation equivalent to $a = 20d + 43$ is accepted.*
16	**Equation**	4; 2 *Any pair of values equivalent to 2 and 4, in any order is accepted.*
17	**Equation**	3; 2 *x-value: Any expression with a value of 3 is accepted.* *y-value: Any expression with a value of 2 is accepted.*

<table>
<tr><th>Question #</th><th>Item Type</th><th>Answer Key/Correct Answer</th></tr>
<tr><td>18</td><td>Table</td><td>
<table>
<tr><th></th><th>Own a Bike</th><th>Do Not Own a Bike</th><th>Total</th></tr>
<tr><td>Boys</td><td>12</td><td>13</td><td>25</td></tr>
<tr><td>Girls</td><td>19</td><td>6</td><td>25</td></tr>
<tr><td>Total</td><td>31</td><td>19</td><td>50</td></tr>
</table>

Any table that shows more girls own bikes than boys with correct row and column totals is accepted.
</td></tr>
<tr><td>19</td><td>Matching</td><td>
<table>
<tr><th></th><th>Greater than zero</th><th>Less than zero</th><th>Equal to zero</th></tr>
<tr><td>7 − (−7)</td><td>☑</td><td>☐</td><td>☐</td></tr>
<tr><td>7 + (−7)</td><td>☐</td><td>☐</td><td>☑</td></tr>
<tr><td>(−7) + (−7)</td><td>☐</td><td>☑</td><td>☐</td></tr>
<tr><td>(−7) − 7</td><td>☐</td><td>☑</td><td>☐</td></tr>
</table>
</td></tr>
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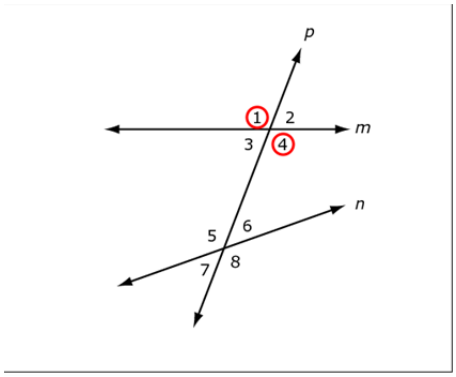
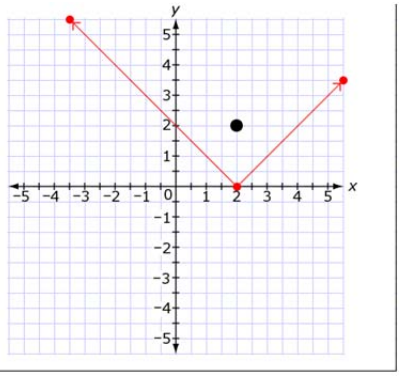
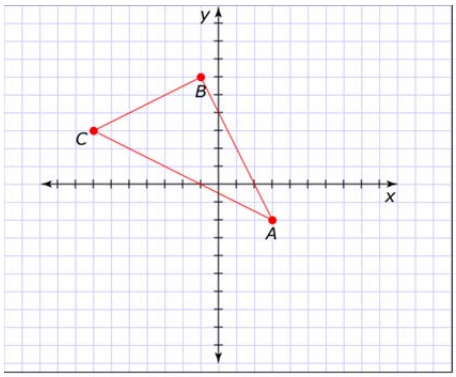
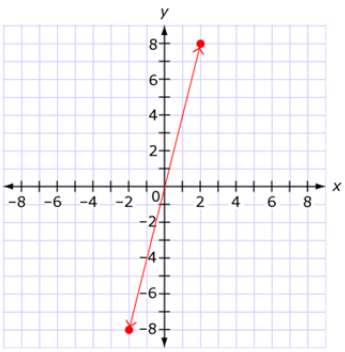
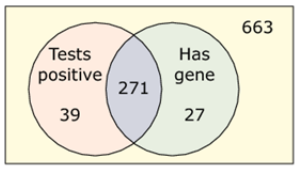
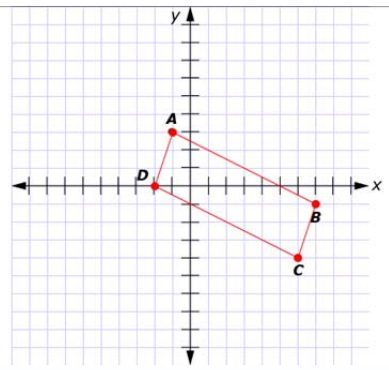
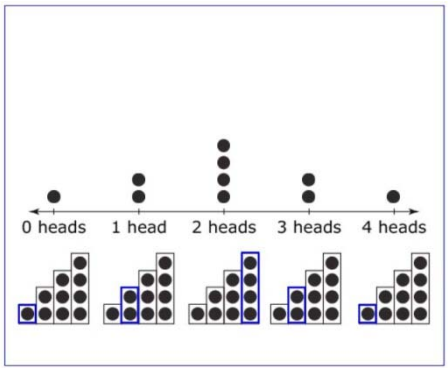
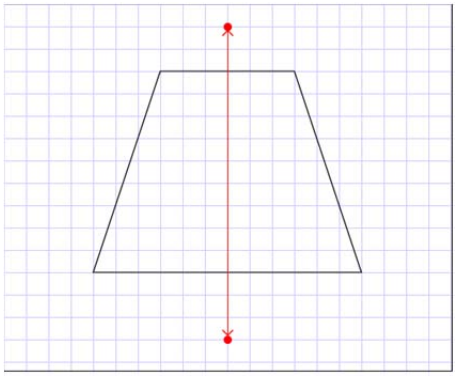
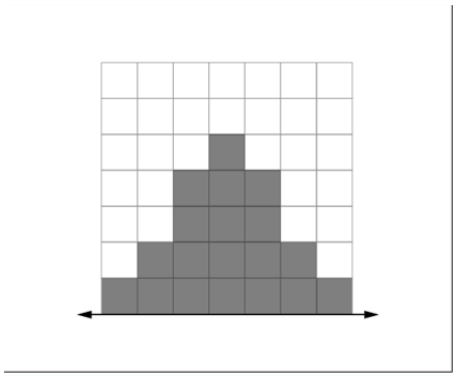
High School Math

Question #	Item Type	Answer Key/Correct Answer
1	Grid Item	 *Answers with 2 and 3, 5 and 8, or 6 and 7 selected are also accepted.*
2	Equation	$\frac{16}{27}x^3 - \frac{4}{9}x^2 + \frac{1}{3}x$ *Any expression equivalent to* $\frac{16}{27}x^3 - \frac{4}{9}x^2 + \frac{1}{3}x$ *is accepted.*
3	Multiple-Choice	B
4	Multiple-Choice	C
5	Multi-Select	B; C; E
6	Equation	0.92 *Any value equivalent to 0.92 (probability) or 92 (percent) is accepted.*
7	Equation	0.005 *Any estimated difference with an absolute value less than or equal to 0.01 is accepted.*

Question #	Item Type	Answer Key/Correct Answer
8	**Grid Item**	 *Lengths of boundary rays are ignored.* *Multiple circles are allowed and may be placed on or between and above the boundary rays.*
9	**Grid Item**	 *Any right triangle where all vertices are labeled and the right angle is at point B is accepted.*
10	**Grid Item**	 *Any line that has a slope of 4 and a y-intercept greater than* -4 *is accepted.*

Question #	Item Type	Answer Key/Correct Answer
11	**Equation**	$y \geq \frac{3}{2}\lvert x-2\rvert$ *Any inequality equivalent to* $y \geq \frac{3}{2}\lvert x-2\rvert$ *is accepted.*
12	**Equation**	17; 19 *A pair of expressions equivalent to* 17 *and* 19 *or* -17 *and* -19 *is accepted. The expressions may be in any order.*
13	**Multi-Select**	B; D; F
14	**Grid Item**	 Tests Positive / Tests Negative Has gene: 271 / 27 Does not have gene: 39 / 663 Probability of false positive = $\frac{39}{702}$
15	**Grid Item**	 *Only one label for D is allowed.* *Point D may be at (0, 6).*
16	**Equation**	32 *Any expression with a value equivalent to 32 is accepted.*

Question #	Item Type	Answer Key/Correct Answer
17	**Grid Item**	 *Any dot plot containing 10 data points is accepted.*
18	**Equation**	-24; 43/3
19	**Multiple-Choice**	D
20	**Equation**	11
21	**Equation**	$g(x) = 6x^2 + 9x + 13; 13$ *Any function equivalent to* $g(x) = 6x^2 + 9x + 13$ *where g(x) is isolated is accepted.* *Any expression equivalent to* $6x^2 + 9x + 13$ *is accepted.* *Any expression equivalent to 13 is accepted..*
22	**Equation**	$\frac{Ax + By}{A + B}$ *Any expression equivalent to* $\frac{Ax+By}{A+B}$ *is accepted.*
23	**Equation**	$(x - 5)^2 + (y - 6)^2 = 36$ *Any equation equivalent to* $(x - 5)^2 + (y - 6)^2 = 36$ *is accepted.*
24	**Grid Item**	 *The length of the line is ignored.*

Question #	Item Type	Answer Key/Correct Answer
25	**Equation**	0.25; 0.5
26	**Grid Item**	 *Any histogram is accepted where the column heights of each corresponding pair of data are within one unit of each other and the heights of the columns are increasing from the left to the middle and decreasing from the middle to the right.*
27	**Natural Language**	Either *a* is an irrational number and *b* is a rational number, or *a* is a rational number and *b* is an irrational number, or both are irrational numbers but the product of the two cannot be written as a rational number. *The student states that if one variable is rational then the other variable is irrational.* *The student states that if both variables are irrational, then the product does not reduce to a rational number.* *The student did not make an incorrect statement.*
28	**Table**	x | $g(x)$ 0 | 9 1 | 19 2 | 29 3 | 39 *Any table based on the function $g(x) = mx + 9$ where $m > 7$ is accepted.*
29	**Matching**	Rational | Irrational $\sqrt{7} + \sqrt{9}$ | ☐ | ☑ $\sqrt{8} \cdot \sqrt{8}$ | ☑ | ☐ $\sqrt{100} + \sqrt{1}$ | ☑ | ☐ $\sqrt{2} \cdot \sqrt{24}$ | ☐ | ☑
30	**Equation**	1; 2