Computer-Based Sample Test Scoring Guide
Grade 5 Math

About the Sample Test Scoring Guide

The Arizona's Academic Standards Assessment (AASA) Sample Test Scoring Guides provide details about the items, student response types, correct responses, and related scoring considerations for AASA Sample Test items.

Within this guide, each item is presented with the following information:
- Item number
- Cluster
- Content Standard
- Depth of Knowledge (DOK)
- Static presentation of the item
- Static presentation of student response field (when appropriate)
- Answer key, rubric or exemplar
- Applicable score point(s) for each item

The items included in this guide are representative of the kinds of items that students can expect to experience when taking the computer-based test for AASA Grade 5 Math.

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
1	5.NF.A	5.NF.A.2	2

Dominik used $\frac{7}{8}$ cup of sugar for a bread recipe. He used $\frac{3}{4}$ cup of sugar for a muffin recipe.

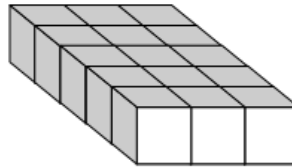How much sugar, in cups, did Dominik use for both recipes?

- A. $\frac{10}{8}$
- ● B. $\frac{13}{8}$
- C. $\frac{11}{11}$
- D. $\frac{10}{12}$

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
2	5.MD.C	5.MD.C.3	2

A rectangular prism made of unit cubes is shown.

What is the volume, in cubic units, of the rectangular prism?

Enter your answer in the space provided.

15

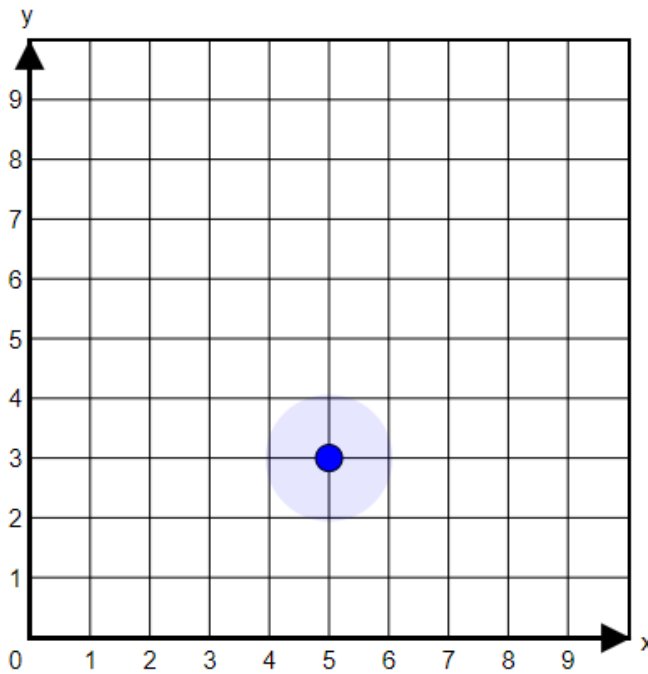| Scoring Rubric	
Score	**Description**
1	Student response is 15 or equivalent value. 5 x 3 x 1 = 15, or 15 cubic units.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
3	5.G.A	5.G.A.1	1

What point is located 5 units to the right of the origin and 3 units above the origin?

Select a location on the coordinate grid to plot the point.

Scoring Rubric	
Score	Description
1	Student response is to plot the point at (5,3).
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
4	5.NBT.B	5.NBT.B.5	2

What is the missing number in the equation?

Enter your answer in the box provided.

$$326 \times 15 = 4890$$

1	2	3
4	5	6
7	8	9
	0	
.	–	

Scoring Rubric	
Score	**Description**
1	Student response is 326 or equivalent number. 326 × 15 = 4890.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
5	5.MD.C	5.MD.C.5	2

Amal is filling a box with unit cubes that each have a volume of 1 cubic inch. The total height of the box is 8 inches.

8 inches
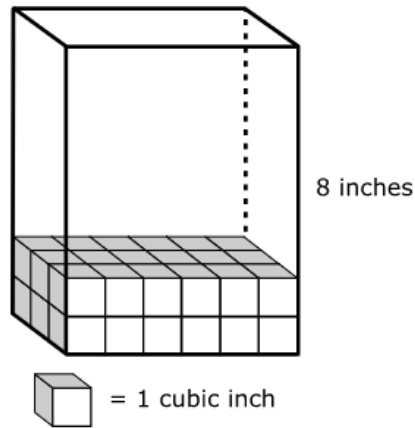
= 1 cubic inch

What is the total volume, in cubic inches, of Amal's box when it is filled?

○ A.   36 cubic inches

○ B. 108 cubic inches

● C. 144 cubic inches

○ D. 180 cubic inches

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
6	5.NF.B	5.NF.B.5	2

Each of 3 multiplication expressions has a factor of 48, as shown.

$48 \times \frac{3}{3}$, $48 \times \frac{3}{4}$, $48 \times \frac{4}{3}$

What is the value of each product compared to the factor of 48?

Move the correct answer to each box.

Product Comparison

Expression	$48 \times \frac{3}{3}$	$48 \times \frac{3}{4}$	$48 \times \frac{4}{3}$
Product Value	Equal to 48	Less than 48	Greater than 48

	Scoring Rubric
Score	Description
1	Student response is to compare the product sizes of fractions to one factor and determine that $48 \times \frac{3}{3}$ is Equal to 48; $48 \times \frac{3}{4}$ is Less than 48; and $48 \times \frac{4}{3}$ is Greater than 48.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
7	5.OA.A	5.OA.A.1	2

Travis tried to find the value of the expression $28 - 16 \times 2 \div 8 \div 4.$ In which step did Travis make a mistake?

Select the correct answer.

Step 1: $28 - 16 \times 2 \div 8 \div 4$

Step 2: $28 - 32 \div 8 \div 4$

Step 3: $28 - 32 \div 2$

Step 4: $28 - 16$

Step 5: 12

Scoring Rubric	
Score	**Description**
1	Student selects Step 3; the expression 28 – 32 ÷ 2.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
8	5.NBT.B	5.NBT.B.7	3

Juan had $60.00 to spend on school supplies at the mall. He bought 2 packs of pens for $12.75 each. He also bought a lunchbox for $12.65. He made 2 extra purchases and had $0.85 left over.

Which two choices could be the extra purchases that Juan bought?

Select **all** the correct answers.

- ☑ A. notebook for $5.75

- ☐ B. headphones for $18.95

- ☐ C. markers for $7.50

- ☑ D. backpack for $15.25

- ☐ E. binders for $22.70

(1 Point) Student selected all of the correct answers.

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
9	5.NF.B	5.NF.B.3	2

Risha had 3 ribbons, each a different length. She cut each ribbon into equal-sized pieces.

- The red ribbon was 2 feet long, cut into 3 equal pieces.
- The green ribbon was 3 feet long, cut into 2 equal pieces.
- The blue ribbon was 3 feet long, cut into 4 equal pieces.

What was the length, in feet (ft), of each piece of the red, green, and blue ribbons?

Move the correct answer to each box.

Length of Each Piece (ft)	$\frac{2}{3}$	$\frac{3}{4}$	$\frac{3}{2}$
Ribbon Color	Red	Blue	Green

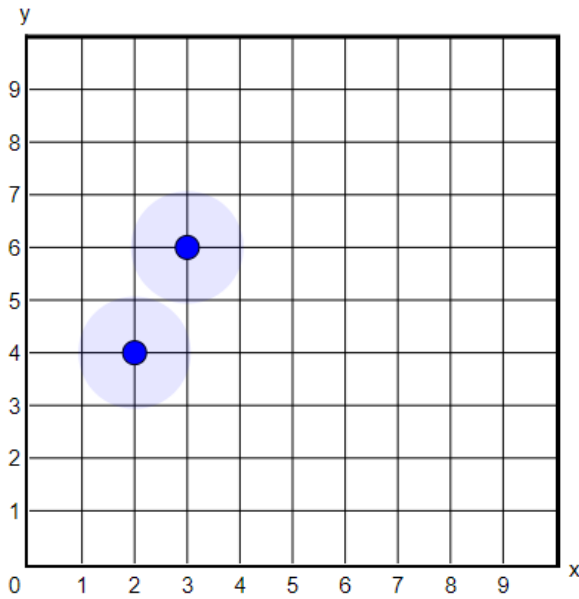| Scoring Rubric	
Score	Description
1	Student response is 2/3 ft = Red ribbon, 3/4 ft = Blue ribbon, and 3/2 ft = Green ribbon.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
10	5.G.A	5.G.A.2	2

The coordinate grid represents the park where Kayla is playing. First she slides down the slide, and then she swings on the swings. The slide is located at $(2, 4)$. The swings are located at $(3, 6)$.

Plot the points on the coordinate grid to show the locations of the slide and the swings.

Select a location on the coordinate grid to plot each point.

The Park

Scoring Rubric	
Score	Description
1	Student response is to plot one point at (2, 4) and one point at (3, 6).
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
11	5.OA.B	5.OA.B.3	2

Kai wrote two number patterns using the rules shown.

- Pattern A: Begin with 0, and then add 3 to get the next number.
- Pattern B: Begin with 2, and then multiply by 3 to get the next number.

What are the missing numbers in each of Kai's number patterns?

Move the correct answer to each box. Each answer may be used more than once. Not all answers will be used.

| 12 | 18 | 162 | 324 | 486 |

Pattern A: 0, 3, 6, 9, [12], 15, [18], 21, 24

Pattern B: 2, 6, [18], 54, 162, [486], 1458

	Scoring Rubric
Score	Description
1	Student response for Pattern A: gap 1 is 12 and gap 2 is 18. Student response for Pattern B: gap 3 is 18 and gap 4 is 486.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
12	5.NF.B	5.NF.B.6	2

Mr. Shinn has a rectangular-shaped garden that has a length of $4\frac{1}{4}$ feet and a width of $5\frac{2}{3}$ feet.

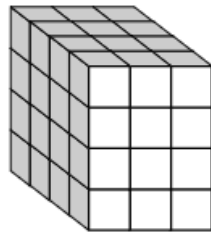What is the area, in square feet (sq ft), of Mr. Shinn's garden?

○ A. $9\frac{3}{7}$ sq ft

○ B. $9\frac{11}{12}$ sq ft

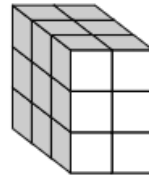○ C. $19\frac{5}{6}$ sq ft

◉ D. $24\frac{1}{12}$ sq ft

(1 Point)

Grade 5 Math Sample Test

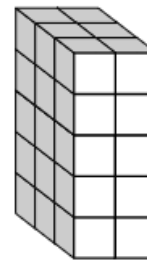| Item Number	Cluster	Content Standard	DOK
13	5.MD.C	5.MD.C.4	2

Shape A, Shape B, and Shape C are rectangular prisms made of cubic units.

Shape A   Shape B   Shape C

Determine whether each prism has a volume that is less than or greater than 25 cubic units.

Select **all** the correct answers.

	Less than 25 Cubic Units	Greater than 25 Cubic Units
Shape A	○	⊙
Shape B	⊙	○
Shape C	○	⊙

Scoring Rubric	
Score	Description
1	Student selects Greater than 25 Cubic Units for Shape A, Less than 25 Cubic Units for Shape B, and Greater than 25 Cubic Units for Shape C.
0	The response is incorrect or irrelevant.

(1 Point)

15

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
14	5.NBT.B	5.NBT.B.6	2

What division equation is represented by the area model shown?

Move the correct answers to each box. Not all answers will be used.

| 20 | 144 | 2400 |

	100	30	6
24	2400	720	

144

$3264 \div 24 = 136$

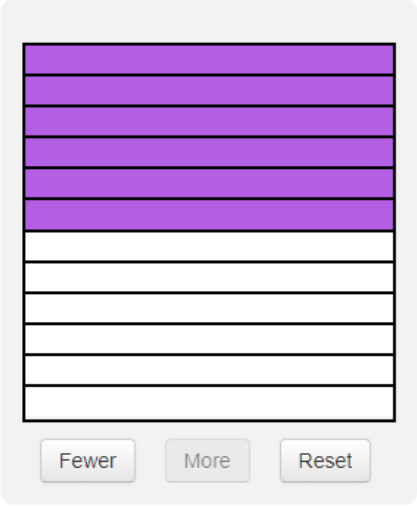| Scoring Rubric	
Score	Description
1	Student response is 3264 ÷ 24 = 136. Student created and solved a division equation from an area model.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
15	5.NF.B	5.NF.B.4	1

What is the value of $\frac{2}{3} \times \frac{3}{4}$?

Divide the figure into the correct number of equal parts using the Fewer or More buttons. Then select each part that should be shaded.

Fewer   More   Reset

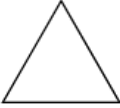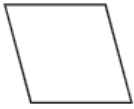| Scoring Rubric	
Score	Description
1	Student response is to divide the model into 12 parts and shade 6 parts. Equivalent fraction representation is acceptable.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
16	5.G.B	5.G.B.4	2

Describe each figure shown as a quadrilateral, a rhombus, both, or neither a quadrilateral nor rhombus.

Select **all** the correct answers. You may select more than one answer in each row.

Figure	Quadrilateral	Rhombus	Neither Quadrilateral nor Rhombus
(square)	✔	✔	☐
(parallelogram)	✔	☐	☐
(triangle)	☐	☐	✔
(rhombus)	✔	✔	☐

Scoring Rubric	
Score	**Description**
1	Student response is: 1. Quadrilateral and Rhombus 2. Quadrilateral 3. Neither Quadrilateral nor Rhombus 4. Quadrilateral and Rhombus The student understands that two-dimensional figures can be classified in a hierarchy based on properties. A quadrilateral has four sides, while a rhombus has 4 congruent sides. A triangle is neither a quadrilateral nor a rhombus.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
17	5.NBT.A	5.NBT.A.2	2

Which equations can be correctly completed by filling in the empty box with the value 10^3?

Select **all** the correct answers.

☑ A. $6.2 \times \square = 6200$

☑ B. $3.81 \times \square = 3810$

☐ C. $75 \times \square = 7500$

☐ D. $80 \times \square = 8000$

☑ E. $5 \times \square = 5000$

☐ F. $10 \times \square = 1000$

(1 Point) Student selected all of the correct answers.

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
18	5.OA.B	5.OA.B.4	2

Which numbers are prime numbers?

Select **all** the correct answers.

| 7 | 9 | 12 | 19 | 22 | 29 |

Scoring Rubric	
Score	Description
1	Student response is to select 7, 19, and 29 as prime numbers.
0	The response is incorrect or irrelevant.

(1 Point) Student selected all of the correct answers.

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
19	5.NF.A	5.NF.A.1	2

Which equation can be used to find the sum of $\frac{5}{6}$ and $\frac{4}{9}$?

○ A. $\frac{5}{6} + \frac{4}{6} = \frac{9}{6}$

○ B. $\frac{15}{9} + \frac{4}{9} = \frac{19}{9}$

○ C. $\frac{5}{18} + \frac{8}{18} = \frac{13}{18}$

◉ D. $\frac{15}{18} + \frac{8}{18} = \frac{23}{18}$

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
20	5.NBT.A	5.NBT.A.3	2

Which symbol correctly completes each comparison?

Select each correct answer.

0.341 [> ▾] three hundred four one-thousandths

0.346 [< ▾] 0.463

0.302 [= ▾] $3 \times \frac{1}{10} + 2 \times \frac{1}{1000}$

(1 Point) Student selected all of the correct answers from the dropdowns.

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
21	5.NF.B	5.NF.B.7	2

Tiles are used to cover $\frac{1}{2}$ of the total area of a wall. The tiled part of the wall is divided into 4 equal-sized sections. Each tiled section is a different color. What fraction of the total wall is each of the 4 colored tile sections?

Divide the figure into the correct number of equal parts using the Fewer or More buttons. Then select each part that should be shaded.

| Fewer | More | Reset |
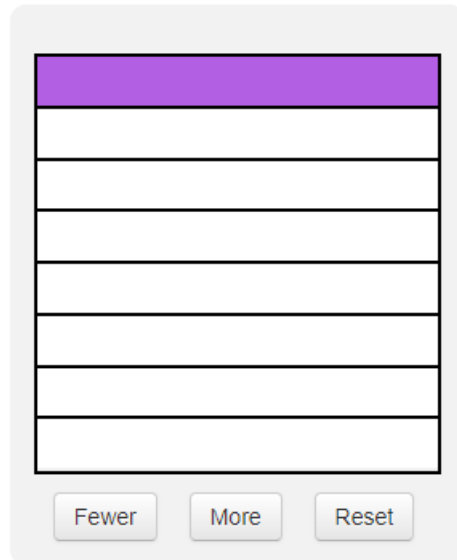
Scoring Rubric	
Score	Description
1	Student partitions the fraction model into 8 parts and shades 1 part. 1/8; 1/2 ÷ 4 = 1/2 × 1/4 = 1/8.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
22	5.NBT.A	5.NBT.A.4	1

Which decimals round to 3.1 when rounded to the nearest tenth?

Select **all** the correct answers.

☑ A. 3.06

☑ B. 3.12

☐ C. 3.008

☑ D. 3.109

☐ E. 3.005

☐ F. 3.153

(1 Point) Student selected all of the correct answers.

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
23	5.MD.A	5.MD.A.1	2

Shari is packing candles into boxes. The weight limit for each box is 10 kilograms. Each candle weighs 500 grams.

What is the maximum number of candles that Shari can pack into each box?

Enter your answer in the space provided.

20

1	2	3
4	5	6
7	8	9
	0	
.	–	

Scoring Rubric	
Score	Description
1	Student response is 20 or equivalent value.
0	The response is incorrect or irrelevant.

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
24	5.NBT.A	5.NBT.A.1	1

The value of the 5 in 753 is how many times the value of the 5 in 7.53?

○ A. $\frac{1}{100}$

○ B. $\frac{1}{10}$

○ C. 10

● D. 100

(1 Point)

Grade 5 Math Sample Test

Item Number	Cluster	Content Standard	DOK
25	5.OA.A	5.OA.A.2	2

What numerical expression represents the calculation, "6 times the difference of 15 and 5"?

Enter your answer in the space provided.

$$6 \times (15 - 5)$$

Scoring Rubric	
Score	**Description**
1	Student response is 6 × (15 − 5), (15 − 5) × 6 or equivalent expressions/equations that include the following: Use of the numbers 15, 6, and 5 are required. Use of the multiplication sign and the minus sign are required. Equations that include the above and the answer of 60 after an equal sign are acceptable. Equations that include the use of an empty box, variable, or question mark after an equal sign are acceptable.
0	The response is incorrect or irrelevant.

(1 Point)