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

Computer-Based Sample Test Scoring Guide Grade 5 Math

AzMERIT

Updated January 2019

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

Arizona Department of Education

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About the Sample Test Scoring Guide

The AzMERIT Sample Test Scoring Guides provide details about the items, student response types, correct responses, and related scoring considerations for AzMERIT Sample Test items.

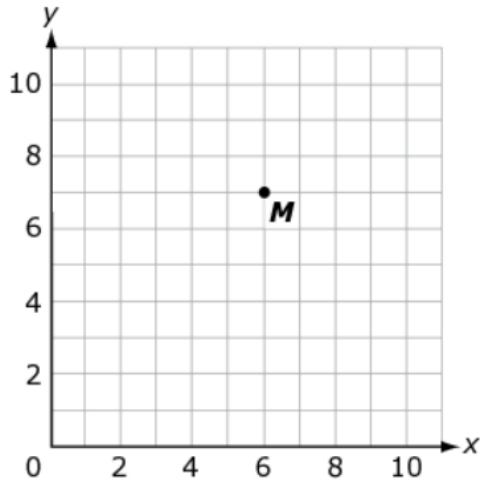Within this guide, each item is presented with the following information:
- Item number
- Cluster
- Content Standard
- Depth of Knowledge (DOK)
- Static presentation of the item
- Static presentation of student response field (when appropriate)
- Answer key, rubric or exemplar
- Applicable score point(s) 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 AzMERIT Grade 5 Math.
Sample Item graphic (not MC) with metadata labeled.

Grade 5 Math Sample Test

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

Point M is located at (6, 7) on the coordinate plane. Point N is located 5 units to the left and 2 units down from point M.
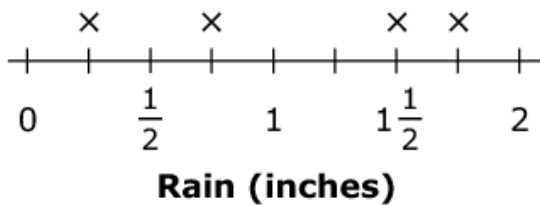
What are the coordinates of point N?

- ⬤ (1, 5)
- Ⓑ (4, 2)
- Ⓒ (8, 12)
- Ⓓ (11, 9)

(1 Point) Student selected the correct option.

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

Kyle records the rainfall, in inches, for four days and records his data on the line plot.

Rainfall

Rain (inches)

Kyle then records the rainfall for a fifth day. The total rainfall for all five days is $5\frac{1}{2}$ inches.

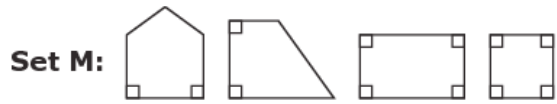What was the rainfall, in inches, on the fifth day?

1.25

1	2	3
4	5	6
7	8	9
0	.	▫/▫

(1 Point) Student entered **1.25** or any equivalent value.

Item Number	Cluster	Content Standard	DOK
3	5.G.B	5.G.B.3	3

Two sets of shapes are shown.

Set M:

Set N:

- All the shapes in Set M have at least two 90-degree angles and one pair of parallel sides.

- All the shapes in Set N have at least two pairs of sides with equal lengths and two pairs of parallel sides.

Select all the statements that must be true.

☑ Every shape in Set M has at least one right angle.

☐ Every shape in Set M is a parallelogram.

☑ There appear to be two parallelograms in Set N.

☑ There is one rhombus in Set N.

☐ Every shape in Set N is a quadrilateral.

(1 Point) Student selected the three correct statements.

Item Number	Cluster	Content Standard	DOK
4	5.NBT.B	5.NBT.B.7	2

Chandni has 3 pieces of orange yarn that are 1.25 feet long each and 2 pieces of blue yarn that are 2.75 feet long each. She uses all 5 pieces of yarn for an art project.

What is the total length of yarn, in feet, that Chandni uses for her art project?

9.25

1	2	3
4	5	6
7	8	9
0	.	▯/▯

(1 Point) Student entered **9.25** or any equivalent value.

Item Number	Cluster	Content Standard	DOK
5	5.NF.A	5.NF.A.2	3

Anthony completed $\frac{3}{4}$ of his homework questions. After completing a few more, Anthony claims that he has now completed $\frac{5}{9}$ of his homework questions.

Which statement explains why Anthony's claim is incorrect?

(A) 3 is less than 5.

● $\frac{3}{4}$ is greater than $\frac{5}{9}$.

(C) 9 is not a multiple of 4.

(D) $\frac{5}{9}$ is not a multiple of $\frac{3}{4}$.

(1 point) Student selected the correct option.

Item Number	Cluster	Content Standard	DOK
6	5.OA.A	5.OA.A.1	3

Matthew evaluated the following expression, as shown.

$$\frac{4}{5} \times (12 \div 2 + 4) - 1$$

Step 1: $\frac{4}{5} \times (6 + 4) - 1$

Step 2: $\frac{4}{5} \times 10 - 1$

Step 3: $\frac{4}{5} \times 9$

Step 4: $7\frac{1}{5}$

Which step shows Matthew's first mistake?

Ⓐ Step 1

Ⓑ Step 2

⬤ Step 3

Ⓓ Step 4

(1 point) Student selected the correct option.

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

What is 0.4582×10^3?

458.2

← → ↶ ↷ ⌫

1	2	3
4	5	6
7	8	9
0	.	▢/▢

(1 Point) Student entered **458.2** or any equivalent value.

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

Joshua and Kiara are creating number patterns.

- Joshua's pattern starts at 1 and follows the rule "Multiply by 2, then add 1."

- Kiara's pattern starts at 11 and follows the rule "Add 5."

What is the first number that is the same in both patterns?

31

1	2	3
4	5	6
7	8	9
0	.	□/□

(1 point) Student entered **31** or any equivalent value.

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

Drag a number to each box to complete the multiplication problem.

0
1
2
3
4
5
6
7
8
9

Delete ✕

$$
\begin{array}{r}
3\;79 \\
\times 46 \\
\hline
2{,}274 \\
+1\;5{,}160 \\
\hline
17{,}434 \\
\end{array}
$$

(1 point) Student selected three correct numbers.

Item Number	Cluster	Content Standard	DOK
10	5.NF.B	5.NF.B.3	1

A fraction is shown.

$$\frac{15}{7}$$

Which expression is equivalent to this fraction?

Ⓐ $15 - 7$

⬤ $15 \div 7$

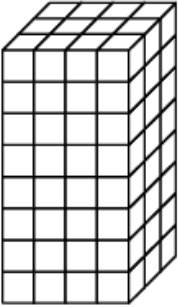Ⓒ $7 - 15$

Ⓓ $7 \div 15$

(1 Point) Student selected the correct option.

Item Number	Cluster	Content Standard	DOK
11	5.MD.C	5.MD.C.3	1

A rectangular prism is shown.

Which measure can be found by counting all of the cubes in this prism?

Ⓐ length

Ⓑ height

● volume

Ⓓ surface area

(1 point) Student selected the correct option.

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

Kiyah places some unit cubes inside a box as shown.

The volume of each cube is 1 cubic centimeter.

What is the total volume of the box, in cubic centimeters?

24

1	2	3
4	5	6
7	8	9
0	.	□/□

(1 point) Student entered **24** or any equivalent value.

Item Number	Cluster	Content Standard	DOK
13	5.NF.A	5.NF.A.2	3

Elise is planting vegetables in a garden. She plants potatoes in $\frac{5}{8}$ of the garden. She plants onions in $\frac{1}{4}$ of the garden.

What fraction of the garden is left for Elise to plant more vegetables in?

$$\frac{1}{8}$$

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

(1 point) Student entered $\frac{1}{8}$ or any equivalent fraction.

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

Select all the expressions that have a value less than 3153.

☐ $3153 \times \dfrac{2}{1}$

☐ $3153 \times \dfrac{4}{1}$

☑ $3153 \times \dfrac{1}{4}$

☑ $3153 \times \dfrac{1}{2}$

☐ $3153 \times \dfrac{3}{2}$

(1 point) Student selected the two correct expressions.

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

An expression is shown.

$336 \div 14$

What is the value of the expression?

24

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

(1 point) Student entered **24** or any equivalent value that is not a fraction.

Item Number	Cluster	Content Standard	DOK
16	5.NF.A	5.NF.A.1	3

An equation is shown.

$$1\frac{5}{12} - \frac{\square}{3} = \frac{9}{12}$$

What is the missing numerator?

2

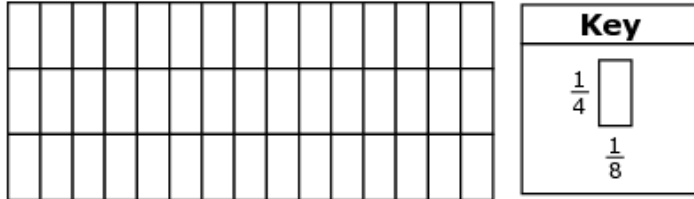| 1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

(1 point) Student entered **2** or any equivalent value.

Item Number	Cluster	Content Standard	DOK
17	5.NF.B	5.NF.B.4	2

A rectangular fraction model is shown.

Key

$\frac{1}{4}$ ▯

$\frac{1}{8}$

What is the area represented by the model?

Ⓐ $\frac{18}{32}$ square units

● $\frac{45}{32}$ square units

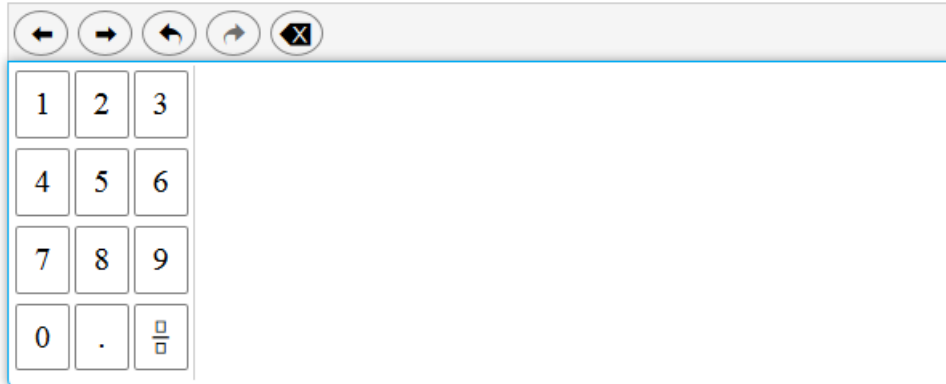Ⓒ $\frac{18}{12}$ square units

Ⓓ $\frac{21}{8}$ square units

(1 Point) Student selected the correct option.

Item Number	Cluster	Content Standard	DOK
18	5.NF.B	5.NF.B.6	3

Tiana has $2\frac{2}{3}$ gallons of paint.

- She uses $\frac{1}{2}$ of the total amount to paint her room.

- She gives $\frac{3}{4}$ of the remaining paint to her brother.

How many gallons of paint does Tiana give to her brother?

1

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

(1 point) Student entered 1 or any equivalent value.

Item Number	Cluster	Content Standard	DOK
19	5.NBT.A	5.NBT.A.3	1

Enter the number twelve hundredths in decimal form.

0.12

| ← | → | ↶ | ↷ | ⌫ |

1	2	3
4	5	6
7	8	9
0	.	▫/▫

(1 point) Student entered **0.12** or any equivalent decimal.

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

Andre wants to run 3 miles. One lap around the track is $\frac{1}{4}$ mile.

How many laps will it take Andre to run 3 miles?

Ⓐ $\frac{3}{4}$

Ⓑ 3

Ⓒ 4

● 12

(1 point) Student selected the correct option.

Item Number	Cluster	Content Standard	DOK
21	5.NF.B	5.NF.B.5	1

Select one phrase that describes the value of each expression.

	Greater than 3	Equal to 3	Less than 3
$3 \times \dfrac{1}{2}$	☐	☐	☑
$3 \times 1\dfrac{1}{4}$	☑	☐	☐
$3 \times \dfrac{6}{6}$	☐	☑	☐
$3 \times \dfrac{3}{2}$	☑	☐	☐

(1 Point) Student selected the correct options.

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

An expression is shown.

$2{,}020 \div 10^1$

Select all of the expressions that are equivalent to the given expression.

- ☐ 202×10^2
- ☑ $20{,}200 \div 10^2$
- ☑ 0.202×10^3
- ☐ $2{,}020 \div 10^3$
- ☐ 0.00202×10^4
- ☐ 0.2002×10^4

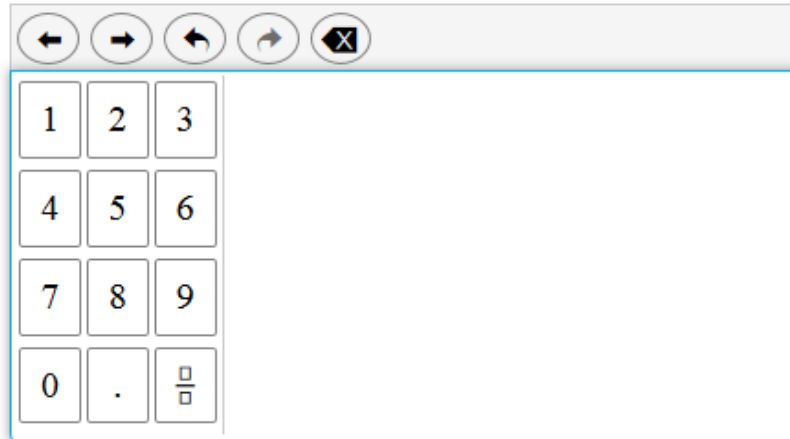**(1 point)** Student selected the two correct equivalent expressions.

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

A multiplication problem is shown.

31,302

× ☐

93,906

What is the missing number?

3

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

(1 point) Student entered **3** or any equivalent value.

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

Select all of the numbers that round to 5.1 when rounded to the nearest tenth.

- ☐ 5.0
- ☐ 5.01
- ☐ 5.016
- ☑ 5.099
- ☑ 5.13
- ☐ 5.17

(1 point) Student selected the two correct options.

Item Number	Cluster	Content Standard	DOK
25	5.NBT.A	5.NBT.A.2	1

Enter a value for each expression to complete the table.

3.8×100	380
3.8×10	38
$3.8 \div 10$	.38
$3.8 \div 100$	.038

(1 point) Student entered the correct value for each expression.

Item Number	Cluster	Content Standard	DOK
26	5.OA.B	5.OA.B.4	1

Complete the statement to correctly describe the number 5.

The number 5 has exactly two factors. ▾ It is a prime ▾ number.

(1 point) Student selected "two factors." from first dropdown, and "prime" from second dropdown.