



Computer-Based Sample Test Scoring Guide Grade 3 Math

AzMERIT

Updated January, 2019

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



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 3 Math.

Grade 3 Math Sample Test

Item Number	Cluster	Content Standard	DOK
1	3.OA.D	3.OA.D.8	3

Carla bought 5 packages of stickers with 10 stickers in each package. Carla gave 30 stickers to her friends.

Create an equation to represent the number of stickers, s , that Carla has left. Use s in your equation.

$$5 \times 10 - 30 = s$$

← → ↶ ↷ ✕

1	2	3	s			
4	5	6	+	-	×	÷
7	8	9	<	=	>	
0	.	$\frac{\square}{\square}$	()			

(1 Point) Student entered $5 \times 10 - 30 = s$ or any equivalent equation.

Item Number	Cluster	Content Standard	DOK
2	3.NBT.A	3.NBT.A.1	2

Select all of the numbers that round to 710 when rounded to the nearest ten.

- 700
- 703
- 706
- 708
- 720

(1 Point) Student checked both correct options.

Item Number	Cluster	Content Standard	DOK
3	3.MD.A	3.MD.A.1a	2

Martin arrived at the library at 3:16 p.m. He left the library at 3:42 p.m.
How many minutes did Martin spend at the library?

26

A digital calculator interface with a grey header bar containing five navigation buttons: left arrow, right arrow, undo, redo, and clear (X). Below the header is a numeric keypad with buttons for digits 1-9, 0, a decimal point, and a fraction template icon.

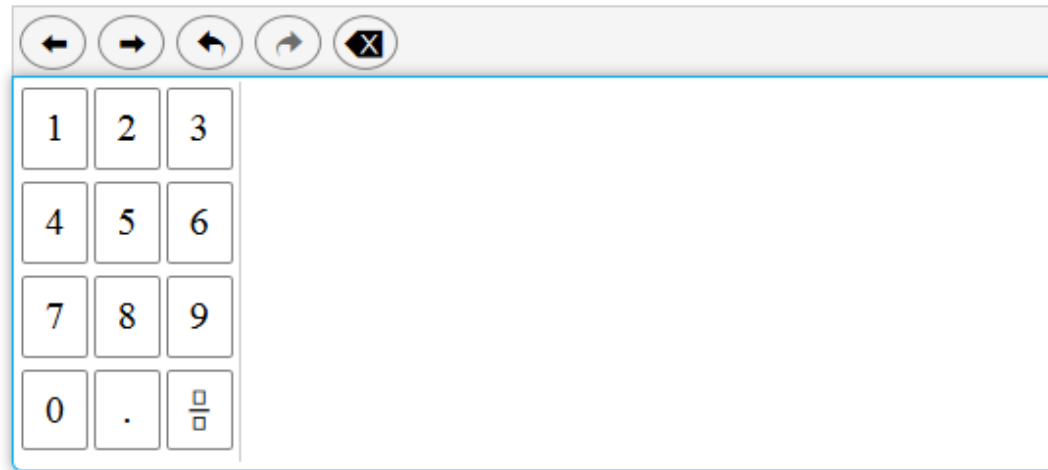
(1 Point) Student entered **26** or any equivalent value.

Item Number	Cluster	Content Standard	DOK
4	3.OA.D	3.OA.D.9	2

Jose uses skip-counting to create the pattern shown.

6, 12, 18, 24, ...

What is the next number in the pattern?



(1 Point) Student entered **30** or any equivalent value.

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

Henry has 28 pennies. He wants to split the pennies into equal piles. Create a division equation that models a way he could do this.

$$\frac{28}{7} = 4$$

(1 point) Student entered $\frac{28}{7} = 4$ or any equation in the form $\frac{28}{a} = b$ or

$b = \frac{28}{a}$, where a and b are positive integers.

Item Number	Cluster	Content Standard	DOK
6	3.NF.A	3.NF.A.3	3

Create a fraction that is greater than $\frac{2}{8}$ and less than $\frac{2}{4}$.

$$\frac{2}{5}$$

A digital input interface for a fraction. At the top, there are five navigation buttons: left arrow, right arrow, undo, redo, and a clear button (X). Below these is a keypad with four rows of buttons: the first row has 1, 2, 3; the second row has 4, 5, 6; the third row has 7, 8, 9; and the fourth row has 0, a decimal point, and a fraction template button (a square with a horizontal line and two smaller squares above and below it). The fraction $\frac{2}{5}$ is displayed in the input field above the keypad.

(1 point) Student entered $\frac{2}{5}$ or any fraction greater than $\frac{2}{8}$ and less than $\frac{2}{4}$.

Item Number	Cluster	Content Standard	DOK
7	3.OA.A	3.OA.A.4	2

An equation is shown.

$$\square \div 8 = 4$$

What is the missing number?

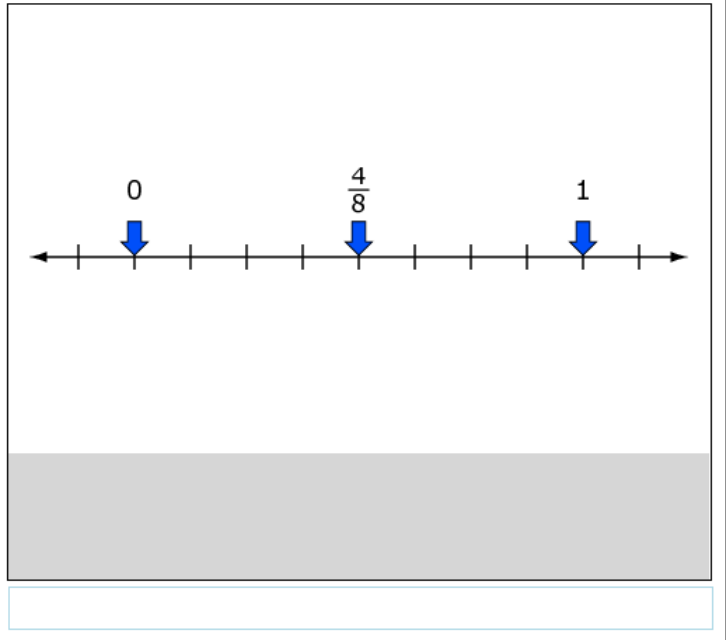
32

A digital math input interface. At the top, there is a row of five circular buttons: a left arrow, a right arrow, a left arrow with a vertical line through it, a right arrow with a vertical line through it, and a square with an 'X' inside. Below this row is a grid of buttons. The first four rows each contain three buttons with the numbers 1, 2, 3; 4, 5, 6; 7, 8, 9; and 0, ., and a fraction symbol (a square with a horizontal line and a smaller square below it) respectively. The entire interface is enclosed in a light blue border.

(1 Point) Student entered **32** or any equivalent value.

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

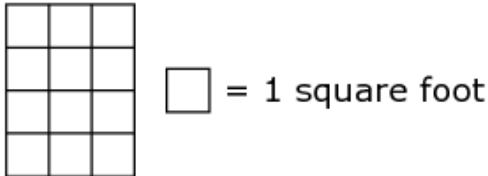
Drag 0, 1, and $\frac{4}{8}$ to correct locations on the number line.



(1 point) Student created the correct number line.

Item Number	Cluster	Content Standard	DOK
9	3.MD.C	3.MD.C.6	2

The diagram shows the floor of Graham’s closet.



What is the area, in square feet, of the floor of Graham’s closet?

← → ↶ ↷ ✖

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

(1 point) Student entered **12** or any equivalent value.

Item Number	Cluster	Content Standard	DOK
10	3.G.A	3.G.A.1	2

Two statements that describe a shape are shown.

- All of the sides have the same length.
- It is a quadrilateral.

Select all of the shapes for which both statements are always true.

- square
- hexagon
- rhombus
- rectangle
- equilateral triangle

(1 Point) Student selected the two correct options.

Item Number	Cluster	Content Standard	DOK
11	3.NBT.A	3.NBT.A.2	2

Enter a number to complete each equation.

9 -	<input type="text" value="3"/>	= 6
90 -	<input type="text" value="30"/>	= 60
900 -	<input type="text" value="300"/>	= 600

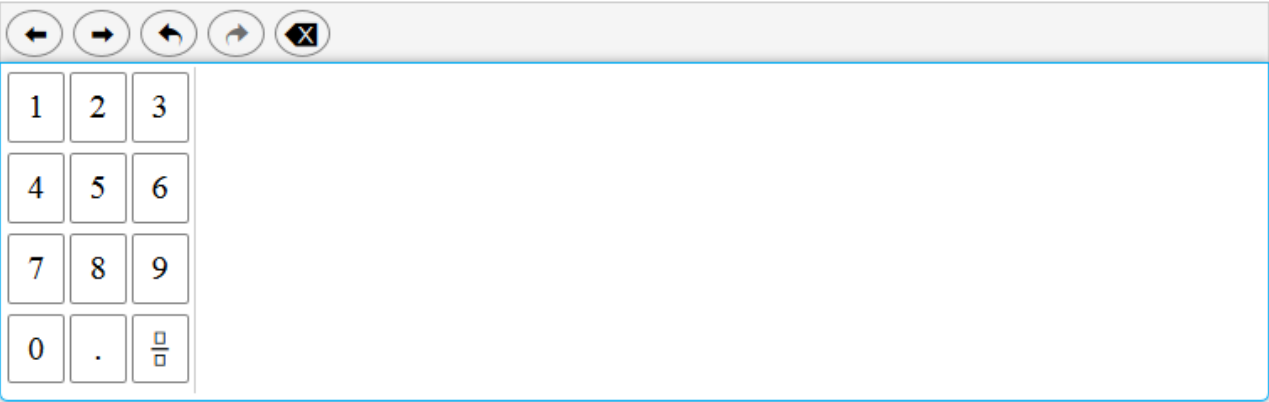
(1 point) Student entered three correct values.

Item Number	Cluster	Content Standard	DOK
12	3.OA.A	3.OA.A.3	2

Jacob has 18 DVDs and 3 shelves to put them on. He puts the same number of DVDs on each shelf.

How many DVDs are on each shelf?

6



(1 point) Student entered 6 or any equivalent value.

Item Number	Cluster	Content Standard	DOK
13	3.OA.A	3.OA.A.3	3

Tommy has 15 toy cars. He wants to put the toy cars into equal groups. He puts more than 1 car in each group.

Create a multiplication or division equation that models the number of cars in each group.

$$\frac{15}{3} = 5$$

The screenshot shows a digital math input interface. At the top, there are navigation buttons: left arrow, right arrow, undo, redo, and a clear button (X). Below these are several rows of buttons for mathematical operations and symbols:

- Row 1: Buttons for digits 1, 2, 3; and operators +, -, ×, ÷.
- Row 2: Buttons for digits 4, 5, 6; and comparison operators <, =, >.
- Row 3: Buttons for digits 7, 8, 9; and a parentheses button ().
- Row 4: Buttons for digit 0, a decimal point (.), and a fraction template button (□/□).

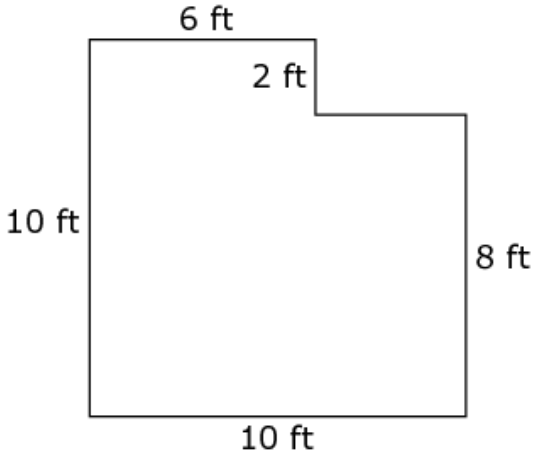
 The input field above the buttons contains the equation $\frac{15}{3} = 5$.

(1 point) Student entered $\frac{15}{3} = 5$ or any equation in the form $\frac{15}{a} = b$ or

$b = \frac{15}{a}$, where a and b are both positive integers.

Item Number	Cluster	Content Standard	DOK
14	3.MD.C	3.MD.C.7	3

A shape is shown.



What is the area, in square feet, of the shape?

92

← → ↶ ↷ ✕

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

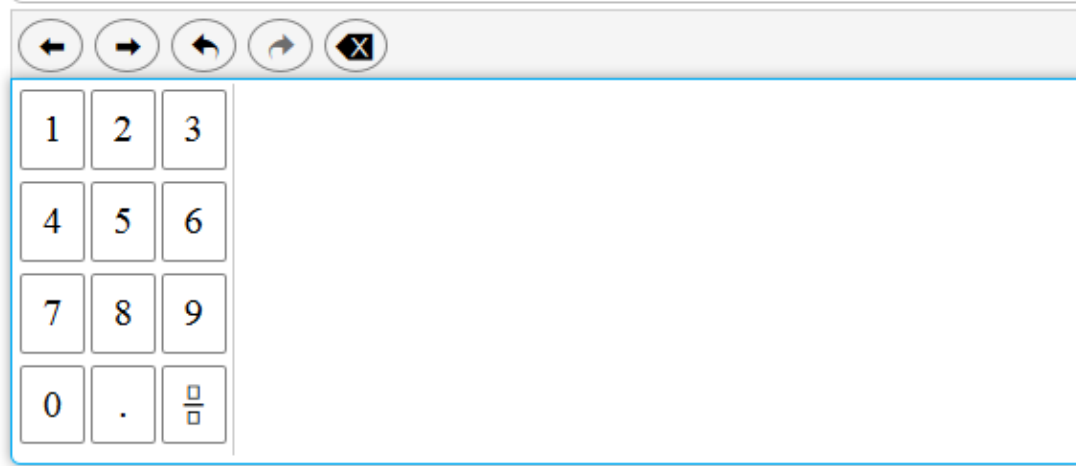
(1 point) Student entered **92** or any equivalent value.

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

A comparison is shown.

$$\frac{1}{?} > \frac{1}{4}$$

What whole number could be the missing denominator?



The image shows a digital input interface for a math problem. At the top, a text box contains the number '2'. Below this is a toolbar with navigation icons: left arrow, right arrow, undo, redo, and a clear button (X). Below the toolbar is a grid of input buttons. The grid has four rows and three columns. The first row contains buttons for '1', '2', and '3'. The second row contains buttons for '4', '5', and '6'. The third row contains buttons for '7', '8', and '9'. The fourth row contains buttons for '0', a decimal point '.', and a fraction template button (represented by a square with a horizontal line and two smaller squares above and below it).


(1 point) Student entered a value of 1, 2, or 3.

Item Number	Cluster	Content Standard	DOK
16	3.NBT.A	3.NBT.A.1	2

A student writes a number.

- The number is greater than 275.
- The number rounds to the same nearest ten as 275.

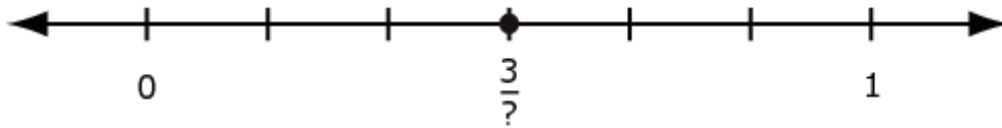
What is one possible value of the number?



(1 point) Student entered **276** or any value greater than **275** and less than **285**.

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

A number line is shown.



What is the missing value?

- (A) 1
- (B) 2
- (C) 3
- 6

(1 Point) Student selected the correct option.

Item Number	Cluster	Content Standard	DOK
18	3.MD.C	3.MD.C.7	3

A figure is shown.



The total area of the figure is 10 square feet.

How many feet is the length of the missing measurement?

← → ↶ ↷ ✖

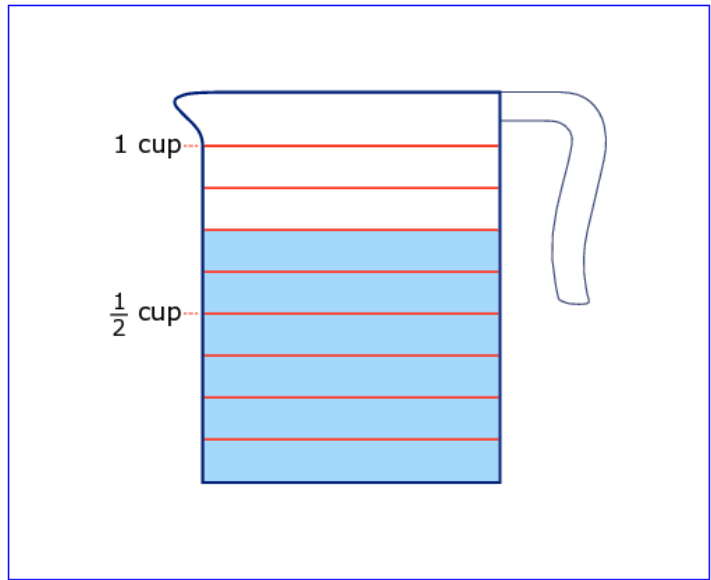
1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

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

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

Alex needs $\frac{3}{4}$ cup of water for a science experiment. He uses the cup shown to measure the water.

Click in a section of the cup to show how much water Alex needs.

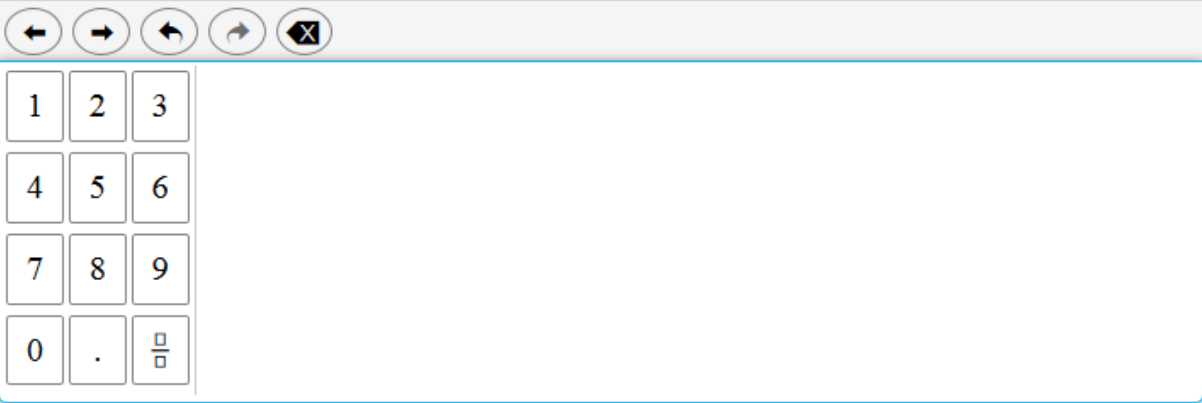


(1 point) Student created the correct equivalent fraction.

Item Number	Cluster	Content Standard	DOK
20	3.OA.D	3.OA.D.8	2

Sara rides her bike 3 days a week. She rides for 10 minutes each day.
How many minutes does Sara spend riding her bike every 2 weeks?

60

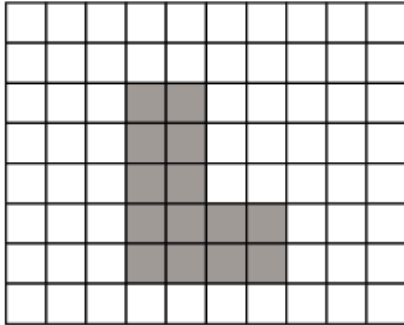


The image shows a digital math input interface. At the top, a text box contains the number '60'. Below this is a toolbar with five icons: a left arrow, a right arrow, a circular arrow, a square arrow, and a square with an 'X'. Below the toolbar is a grid of input buttons. The grid has four rows and three columns. The first row contains buttons for '1', '2', and '3'. The second row contains buttons for '4', '5', and '6'. The third row contains buttons for '7', '8', and '9'. The fourth row contains buttons for '0', a decimal point '.', and a fraction symbol (represented by a horizontal line over two vertical lines).

(1 point) Student entered **60** or any equivalent value.

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

The shaded part of the figure shown has an area of 14 square units.



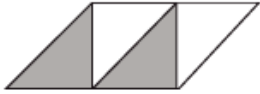
What does a  represent?

- one square unit
- two square units
- four square units
- fourteen square units

(1 Point) Student selected the correct option.

Item Number	Cluster	Content Standard	DOK
22	3.G.A	3.G.A.2	1

A parallelogram is shown. Part of the parallelogram is shaded.



What fraction is represented by the shaded part of the parallelogram?

$\frac{1}{2}$

← → ↶ ↷ ✕

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

(1 point) Student entered $\frac{1}{2}$ or $\frac{2}{4}$.

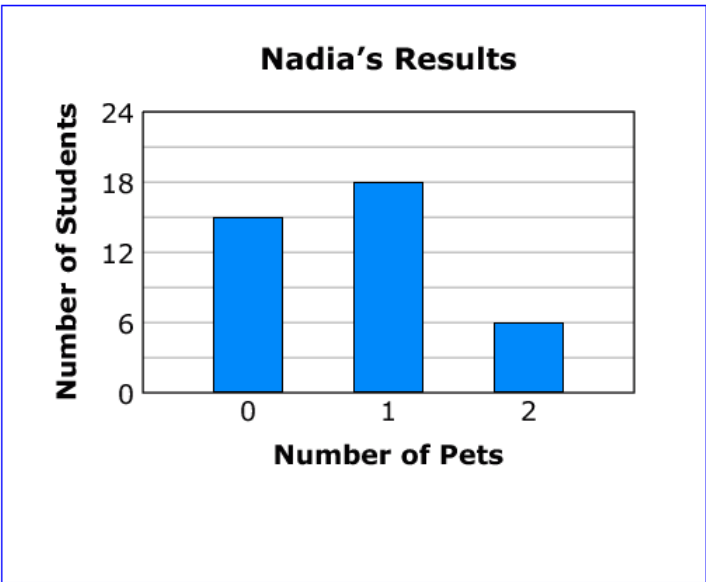
Item Number	Cluster	Content Standard	DOK
23	3.MD.B	3.MD.B.3	2

Nadia asks each student in her class how many pets he or she has. The results are shown in the table.

Nadia's Results

Number of Pets	Number of Students
0	15
1	18
2	6

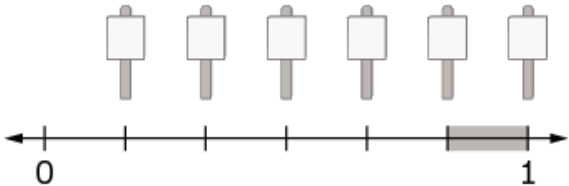
Click between the lines to create a bar graph that shows Nadia's results.



(1 point) Student created a correct graph.

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

There are 6 signs that are placed an equal distance from each other along a hiking path, as shown. The shaded portion represents a section of the path that is closed for repairs.



What fraction of the path is closed for repairs?

$\frac{1}{6}$

← → ↶ ↷ ✕

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

(1 point) Student entered $\frac{1}{6}$ or any equivalent fraction.

Item Number	Cluster	Content Standard	DOK
25	3.OA.A	3.OA.A.1	2

Marty has 12 books that he wants to put on shelves in his room. He wants to put the same number of books on each shelf.

Complete the sentence to correctly show how Marty can arrange the books on shelves.

Marty can put books on each of shelves.

(1 point) Student selected **6** and **2** OR **3** and **4** from the dropdowns.