Grade 7

FAST Mathematics

Sample Test Materials Answer Key

The Grade 7 FAST Mathematics Sample Test Materials Answer Key provides the correct response(s) for each item on the sample test. The sample items and answers are not intended to demonstrate the length of the actual test, nor should student responses be used as an indicator of student performance on the actual test.

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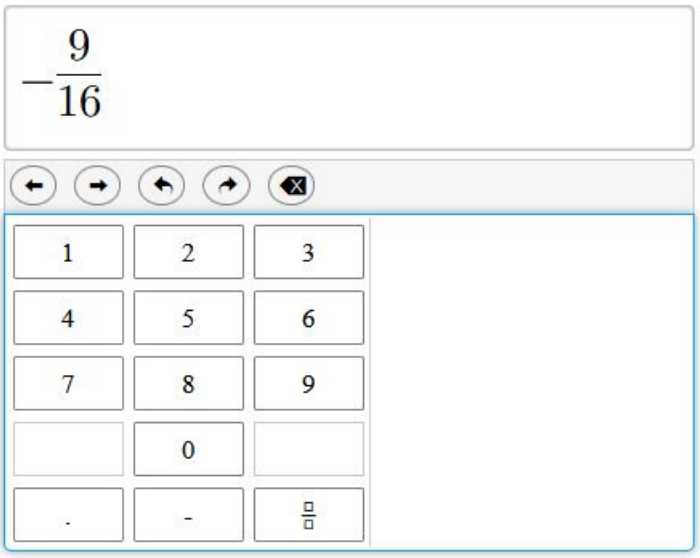
1. What is the product of $\left(-\frac{3}{4}\right)$ and $\left(\frac{3}{4}\right)$?



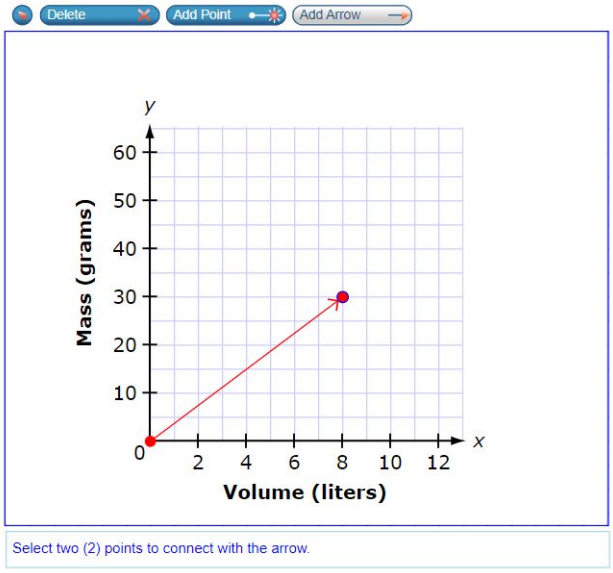
Other correct responses: *any equivalent value*

Go On

2.

Krypton is a chemical substance. Krypton has a constant of proportionality between its mass and volume. The constant of proportionality is 3.75 grams/liter.

Use the Add Arrow tool to graph krypton's proportional relationship.



Other correct responses: *any line with a slope of 3.75 and a* y*-intercept of (0, 0)*

Go On

3. Melanie has a spinner and a deck of cards.

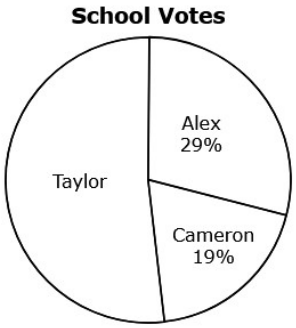
- The probability of spinning an even number on the spinner is $\frac{2}{5}$.
- The probability of drawing an even number from the deck of cards is $\frac{5}{13}$.

Complete the statement to compare the probabilities.

P(spinning an even number) is [greater than] *P*(drawing an even number card) because [$\frac{2}{5} > \frac{5}{13}$].

Go On

4. A school holds an election for class president. The percentage of votes received by Taylor, Alex, and Cameron are shown in the circle graph.



What percentage of the votes did Taylor receive?

Ⓐ 48%

● 52%

Ⓒ 71%

Ⓓ 81%

Option B: **This answer is correct.** *The student correctly identified that the percentage of votes for Taylor is 52%, which will sum to a total of 100% (Alex's percentage is 29%, and Cameron's percentage is 19%).*

Go On

5. Match the equivalent expressions.

	$3m + 4$	$5m + 4$
$2(m + 3) + m - 2$	☑	☐
$5(m + 1) - 1$	☐	☑
$m + m + m + 1 + 3$	☑	☐

Go On

6. An inequality is shown.

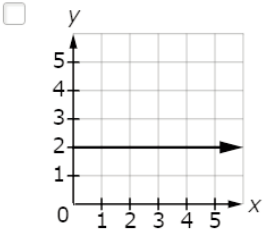
$-4p > -60$

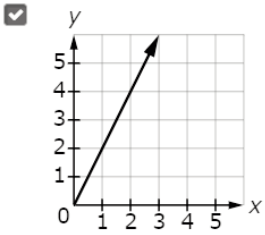
Select the inequality symbol and enter a value to represent the solution to the inequality.

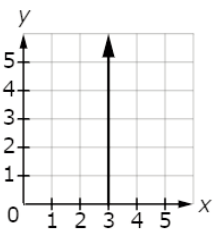
p < 15

Other correct responses: *any equivalent inequality*

7. Select all the representations that show a proportional relationship between x and y.







x	y
0	0
2	4
4	16
6	36

x	y
0	0
2	8
4	16
6	24

Option C: **This answer is correct.** *The student recognized that the graph of a proportional relationship starts at the origin and increases linearly.*

Option D: **This answer is correct.** *The student recognized that a proportional relationship is a relationship between two variables so all pairs of values make equivalent ratios; in this case, x:y = 1:4.*

Go On

8.

A spinner is divided into 4 equally sized sections. The sections are blue, green, red, and yellow. The results of 1000 spins are shown in the table.

Results

Color	Frequency
Blue	470
Green	254
Red	144
Yellow	132

Jeffrey claims that of the four colors, the experimental probability of spinning green is closest to its theoretical probability.

Complete the statement to evaluate Jeffrey's claim, then enter the theoretical probability of spinning green.

Based on the results, Jeffrey's claim is [true] because the experimental probability of the spinner arrow stopping on green [is] the closest of the four colors to the theoretical probability.

The theoretical probability of spinning green is $\frac{250}{1000}$.

Other correct responses: *for equation response, any equivalent value*

Go On

9. This question has **two** parts.

Omar uses a laser printer that prints 30 pages per minute. On Monday, he prints 8 pages. On Tuesday, he prints more pages. Omar prints a total of 143 pages on Monday and Tuesday. Let m be the amount of time, in minutes, he spends printing on Tuesday.

Part A
Create an equation using m to model the amount of time Omar spends printing on Tuesday.

$30m+8=143$

Part B
How many minutes does it take Omar to print the pages on Tuesday?

4.5

Other correct responses: *for Part A, any equivalent equation; for Part B, any equivalent value*

Go On

10. This question has **two** parts.

Bill makes an error when evaluating the expression shown.

$$\left(\frac{(2)^3 \cdot (2)^5}{2^4}\right)^3$$

Part A

Click on the step in the first column of the table where Bill's error first appears.

Given	$\left(\frac{(2)^3 \cdot (2)^5}{2^4}\right)^3$
Step 1	$\left(\frac{2^8}{2^4}\right)^3$
Step 2	$(2^2)^3$
Step 3	2^6
Step 4	64

Part B

What is the correct value of the expression $\left(\frac{(2)^3 \cdot (2)^5}{2^4}\right)^3$?

4096

Other correct responses: *for Part B, any equivalent value*

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