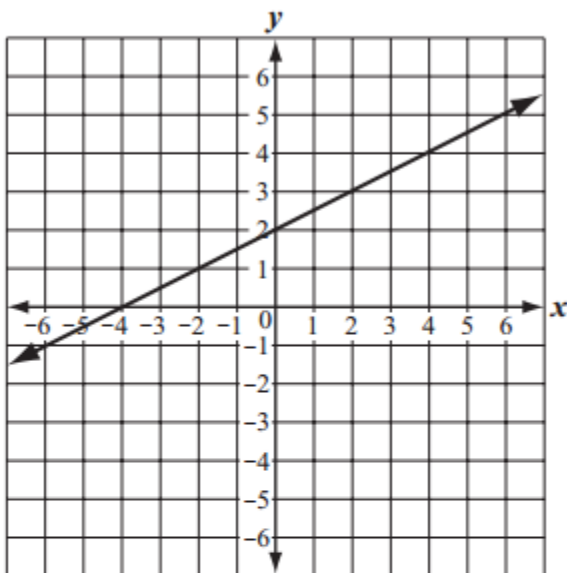


Algebra 1 Quick quiz 03162023

Question 1.

- 1 The graph below shows a relationship between x and y .



Which of the following equations best represents this relationship?

- A. $y = 2x$
- B. $y = x + 2$
- C. $y = \frac{1}{2}x + 2$
- D. $y = 2x + \frac{1}{2}$

Question 2

What is the value of the expression below?

$$8 - 3\sqrt{16}$$

- A. -40
- B. -4
- C. 2
- D. 20

Question 3.

What are the solutions to the system of equations below?

$$\begin{aligned} 3y &= x - 2 \\ y &= -2x + 4 \end{aligned}$$

- A. $x = 0$; $y = 2$
- B. $x = 1$; $y = -2$
- C. $x = 2$; $y = 0$
- D. $x = -2$; $y = 4$

Question 4.

Which values of x and y make the system of equations below true?

$$\begin{aligned}2x - y &= -1 \\3x - y &= -3\end{aligned}$$

- A. $x = -4$; $y = -7$
- B. $x = -2$; $y = -3$
- C. $x = 2$; $y = 5$
- D. $x = 4$; $y = 15$

Question 5.

The sum of the lengths of any two sides of a triangle must be greater than the length of the remaining side.

The lengths of two sides of a triangle are 8 inches and 13 inches. Which of the following represents x , the possible length in inches of the remaining side of the triangle?

- A. $5 < x < 21$
- B. $5 \leq x \leq 21$
- C. $x < 5$ or $x > 21$
- D. $x \leq 5$ or $x \geq 21$

Question 6.

Which of the following is equivalent to the expression below?

$$25 - 9x^2$$

- A. $(5 + 3x)(5 - 3x)$
- B. $(5 - 3x)(5 - 3x)$
- C. $(3x + 5)(3x - 5)$
- D. $(3x - 5)(3x - 5)$

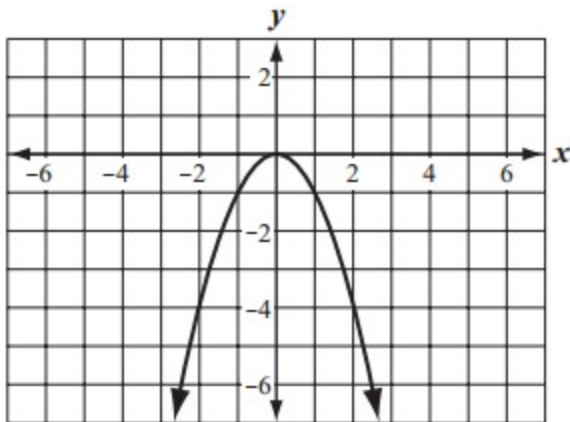
Question 7.

What is **one** solution of the quadratic equation below?

$$x^2 + 3x - 10 = 0$$

Question 8.

- 14 A function is graphed on the coordinate grid below.



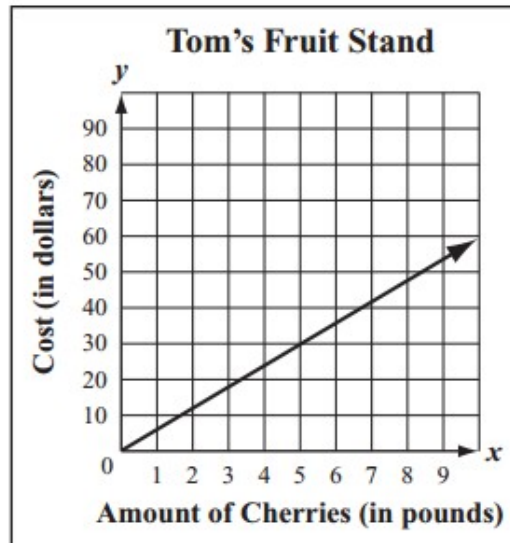
Which of the following statements best describes the function?

- A. As the value of x increases, the value of y increases for all values of x .
- B. As the value of x increases, the value of y decreases for all values of x .
- C. As the value of x increases, the value of y increases for positive values of x only.
- D. As the value of x increases, the value of y decreases for positive values of x only.

Question 9.

Julia and Tom each have a fruit stand. The information in the boxes below can be used to determine the costs, in dollars, of cherries at the two fruit stands.

Julia's Fruit Stand
 $y = 4.5x$,
where y equals the total cost, in dollars, of x pounds of cherries



Based on the information, which of the following statements **best** compares the costs of cherries at the two fruit stands?

- A. Cherries cost \$1.50 more per pound at Julia's Fruit Stand than at Tom's Fruit Stand.
- B. Cherries cost \$2.50 more per pound at Julia's Fruit Stand than at Tom's Fruit Stand.
- C. Cherries cost \$1.50 more per pound at Tom's Fruit Stand than at Julia's Fruit Stand.
- D. Cherries cost \$2.50 more per pound at Tom's Fruit Stand than at Julia's Fruit Stand.

Question 10.

Jay and Kalani graphed lines on a coordinate plane. Jay's line is represented by the equation below.

$$y = 2x - 5$$

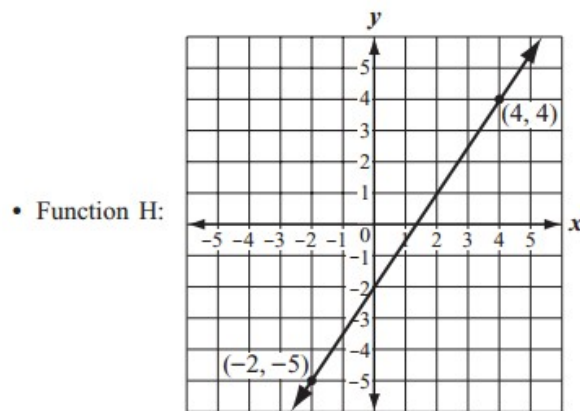
Kalani's line is parallel to Jay's line. Which of the following could be an equation of Kalani's line?

- A. $2x + y = -5$
- B. $-2x + y = 5$
- C. $x + 2y = -5$
- D. $-x + 2y = 5$

Bonus Question

Question 11

- 11 Each of the four functions below shows a relationship between x and y .



- Function I: $y = 2.5x + 8$
- Function J: Multiply the x value by 3 and subtract 6 to get the y value.

• Function K:

x	y
-2	4
0	6
2	8
4	10
6	12

- What is the slope of the line that represents Function H? Show or explain how you got your answer.
- Write an equation in terms of x and y to represent the graph of **Function J**.
- What is the y -intercept of **Function K**? Show or explain how you got your answer.
- List the four functions in order from the function with the least rate of change to the function with the greatest rate of change.