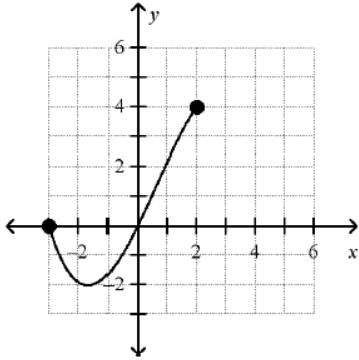


# Algebra 1 Quick quiz 04282023

## Question 1

Give the domain and range of the relation.



- a. D:  $-2 \leq x \leq 4$ ; R:  $-3 \leq y \leq 2$
- b. D:  $-3 \leq x \leq 2$ ; R:  $-2 \leq y \leq 4$
- c. D:  $-3 \leq x \leq 2$  R:  $-3 \leq y \leq 6$
- d. D:  $-3 \leq x \leq 2$  ; R:  $0 \leq y \leq 4$

## Question 2

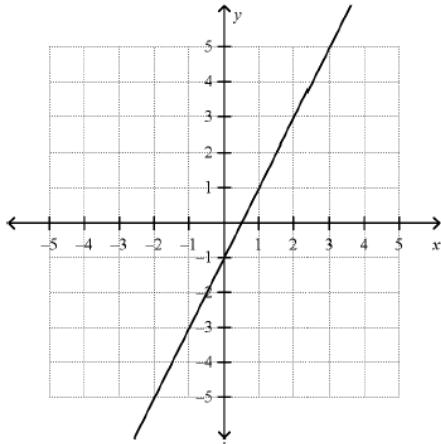
Solve  $x^2 - 7x - 8 = 0$  by factoring.

- a.  $x = -1$  or  $x = 8$
- b.  $x = 1$  or  $x = -8$
- c.  $x = -3$  or  $x = 8$
- d.  $x = -3$  or  $x = 8$

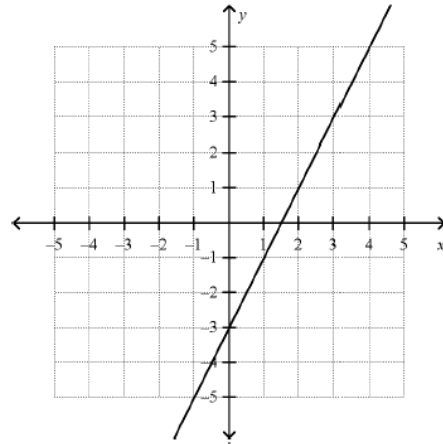
### Question 3.

Which of the following graphs shows the graph of this equation?

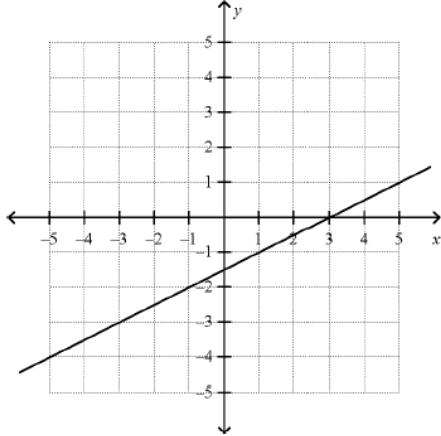
$$y + 1 = 2(x - 1)$$



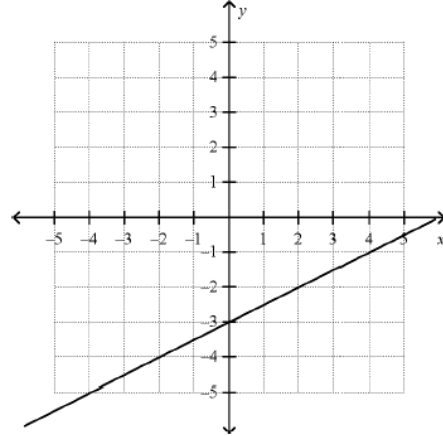
a.



c.



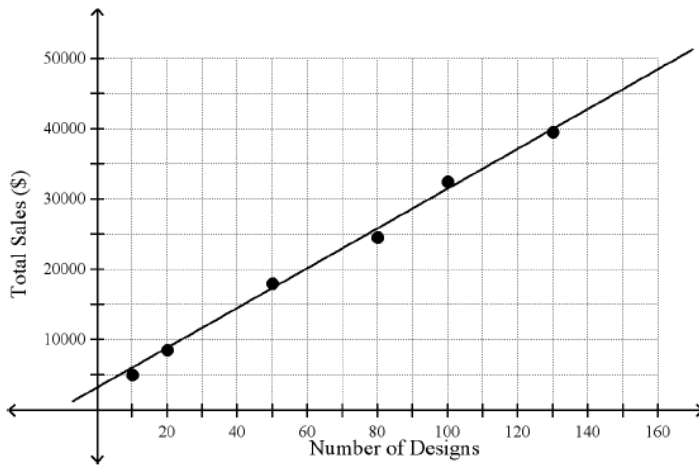
b.



d.

### Question 4.

The scatter plot shows the relationship between the weekly total sales (\$) and the number of different rug designs a rug store has. Based on this relationship, use the line of best fit to predict what the total sales will be when the store has 110 different rug designs.



- a. \$31,000
- b. \$0
- c. \$38,000
- d. \$35,000

### Question 5.

Factor  $x^2 - 16$ .

- a.  $(x - 4)^2$
- b.  $(x + 4)(x - 4)$
- c.  $(x + 4)^2$
- d. cannot be factored

Question 6.

Factor  $x^2 - 6x - 16$ .

a.  $(x + 2)(x - 8)$

b.  $(x - 8)(x - 2)$

c.  $(x - 4)(x - 2)$

d. cannot be factored

Question 7.

Solve  $A = \frac{1}{2}(b + c)h$  for  $c$ .

a.  $c = \frac{h}{2A} - b$

b.  $c = 2Ah - b$

c.  $c = \frac{2A}{h} - b$

d.  $c = 2h(A - b)$

### Question 8.

$$\text{Solve } \begin{cases} 2x + 3y = 4 \\ 3x - 3y = -9 \end{cases}.$$

- a.  $(2, 0)$
- b.  $(-1, 2)$
- c.  $(1, -2)$
- d.  $(-5, 2)$

### Question 9.

Use the zero product property to solve the equation  $(x + 3)(x - 2) = 14$ .

- a. The solutions are 5 and  $-4$ .
- b. The solutions are  $-3$  and 2.
- c. The solutions are  $-5$  and 4.
- d. The solutions are 3 and  $-2$ .

### Question 10.

Which of the following is the solution to this inequality?

$$3(5 + 2n) \geq 7 + 10n$$

- a.  $n \geq 2$
- b.  $n \geq -2$
- c.  $n \leq 2$
- d.  $n \leq -2$

# Bonus Question

## Question 11

### Part A

List the steps to solve the equation  $x^2 + 12x - 28 = 0$  by completing the square, and give the solution or solutions.

Enter your work and your answers in the space provided.



- ▶ Math symbols
- ▶ Relations
- ▶ Geometry
- ▶ Groups
- ▶ Trigonometry
- ▶ Statistics
- ▶ Greek

### Part B

Explain what value or values of  $c$  make the equation  $x^2 + 12x + c = 0$  have one and only one solution. Justify your answer.

Enter your answer and your justification in the space provided.



- ▶ Math symbols
- ▶ Relations
- ▶ Geometry
- ▶ Groups
- ▶ Trigonometry
- ▶ Statistics
- ▶ Greek

