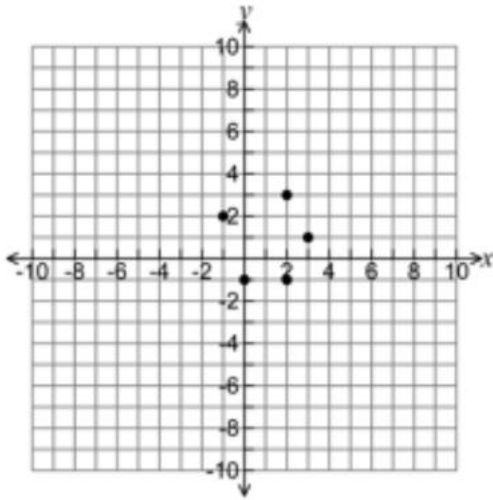
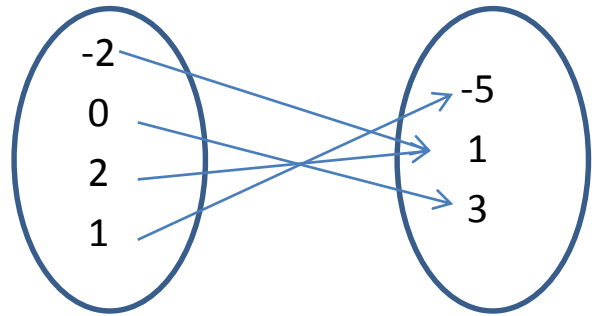


1. Does the scatterplot represent a function?



- A.** Function, because all points fit on the coordinate plane
- B.** Function, because none of the points have the same input
- C.** Relation only, because some of the points have the same input
- D.** Relation only, because some of the points have the same output

2. Does the following mapping diagram represent a function?



- A.** Yes, because none of the inputs repeat
- B.** Yes, because none of the inputs go to the same output.
- C.** No, because the inputs repeat
- D.** No, because none of the inputs have the same output

3. The function  $y = 2x - 1$  is represented by the table below. Determine the missing input value.

x	y
-1	-3
0	-1
5	9
	13

- A.** 7
- B.** 8
- C.** 9
- D.** 10

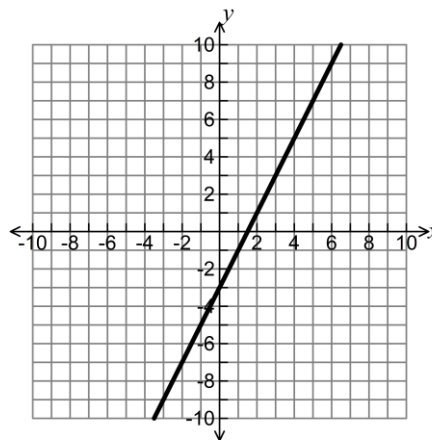
4. A functional relationship is described by the equation  $y = x^2 - 16$ . If the domain of the function is the set  $\{-4, -3, -2\}$ , determine the range of the function.

- A.**  $\{-32, -25, -20\}$
- B.**  $\{0, -7, -12\}$
- C.**  $\{-12, -5, -20\}$
- D.**  $\{0, -5, -12\}$

5. Which function includes the ordered pair  $(0, -1)$ ?

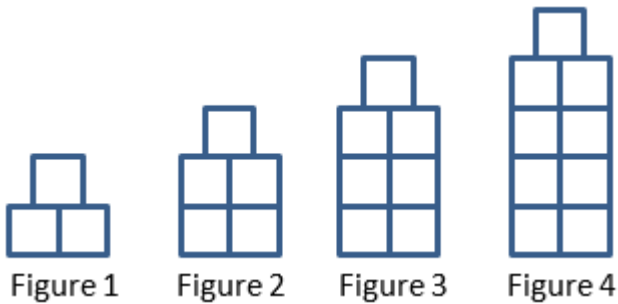
- A.**  $y - 1 = 2x$
- B.**  $y = 0x + 1$
- C.**  $y = \frac{1}{2}x + 4$
- D.**  $y = 2x - 1$

6. For the function graphed below, determine the output value when the input value is  $-3$ .



- A.** 0
- B.** 3
- C.** -9
- D.** -10

7. Ruthie built a sequence of tiles. The first four figures in her pattern are shown below. Which equation shows the relationship between  $x$ , the figure number, and  $y$ , the number of tiles?



- A.**  $y = x + 2$
- B.**  $y = x + 1$
- C.**  $y = 2x + 1$
- D.**  $y = x + 3$

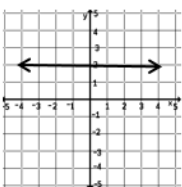
8. Use the table below to write a rule (equation) that represents the relationship between the input and the output.

$x$	$y$
0	3
1	8
2	13
3	18
4	23

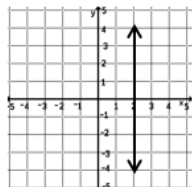
- A.**  $y = 5x - 2$
- B.**  $y = 5x$
- C.**  $y = 5x + 3$
- D.**  $y = x + 5$

9. Which of the following does NOT represent a function?

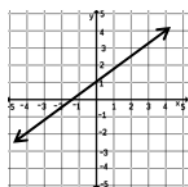
**A.**



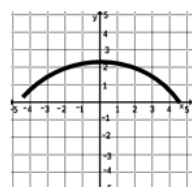
**B.**



**C.**



**D.**



10. Using the equation  $y = 4x - 3$ , write the range using the domain  $\{-3, -2, 0, 2, 3\}$ .

- A.**  $\{-15, -11, -3, 5, 9\}$
- B.**  $\{-14, -13, -12, 5, 8\}$
- C.**  $\{-15, -13, -5, 0, 2\}$
- D.**  $\{-11, -9, 0, 7, 9\}$

11. Find the slope of the line that contains (-9, 2) and (7, -3).

A.  $-\frac{2}{5}$

B.  $-\frac{5}{2}$

C. 0

D. undefined

12. A limo company charges a base rate of \$35 and \$2 per mile. Which equation shows the total cost of a ride in the limo?

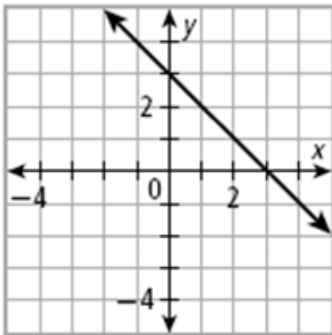
A.  $y = 2x + 35$

B.  $y = 35x + 2$

C.  $y = 2x - 35$

D.  $2x + 35y = 2$

13. At what point does the line below cross the y-axis?



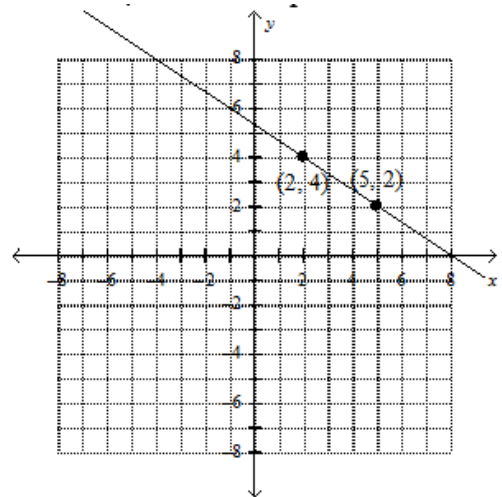
A. (0, 4)

B. (4, 0)

C. (3, 0)

D. (0, 3)

14. Tell whether the slope is positive or negative. Then, find the slope.



A. positive;  $\frac{2}{3}$

B. positive;  $\frac{3}{2}$

C. negative;  $-\frac{2}{3}$

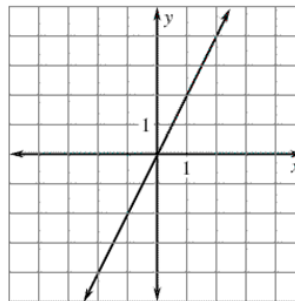
D. negative;  $-\frac{3}{2}$

15. In the linear equation  $y = 4x + 2$ , the value 2 represents which of the following?

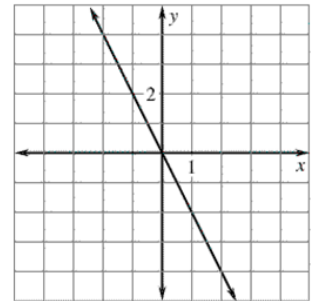
- A. the slope of the line
- B. the y-coordinate of the y-intercept
- C. the x-coordinate of the y-intercept
- D. the quadrant in which the line lies

16. Which graph below represents the linear function  $y = 2x$ ?

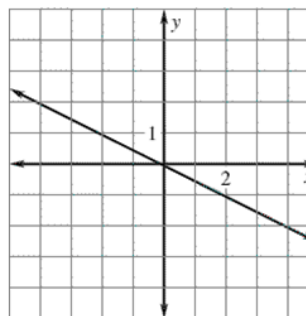
A.



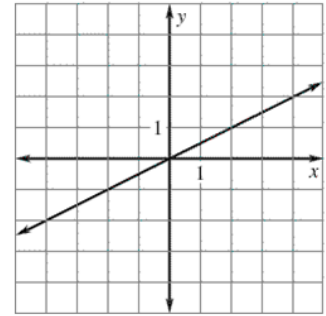
B.



C.



D.



17. Which of the following could NOT be used to define slope?

- A.  $m = \frac{\text{vertical change}}{\text{horizontal change}}$
- B.  $m = \frac{\text{rise}}{\text{run}}$
- C.  $m = \frac{x_2 - x_1}{y_2 - y_1}$
- D.  $m = \frac{y_2 - y_1}{x_2 - x_1}$

18. Describe the graph represented by the table.

$x$	-1	1	2	3	4
$y$	2	-2	-4	-6	-8

- A. The line will rise to the right.  
(positive slope)
- B. The line will rise to the left.  
(negative slope)
- C. The line will be a straight horizontal line. (0 slope)
- D. The line will be a straight vertical line. (undefined slope)

19. Determine the equation of the line in slope-intercept form given the table.

$x$	$y$
-1	-2
0	2
1	6

**A.**  $y = \frac{1}{4}x - 2$

**B.**  $y = 4x + 2$

**C.**  $y = \frac{1}{4}x + 2$

**D.**  $y = -\frac{1}{2}x + 2$

20. PJ and Natalie are both house painters and each charge an hourly rate for a painting job. The equation  $y = 15x$  shows the total charge,  $y$ , in dollars, for hiring Natalie to paint a house for  $x$  hours. The table shows the rate charged by PJ for painting a house.

PJ's Charges

$x$	2	4	6
$y$	28	56	84

Which statement is true?

**A.** Natalie's hourly rate is \$1 cheaper

**B.** PJ's hourly rate is \$1 cheaper

**C.** PJ's hourly rate is \$14 cheaper

**D.** PJ and Natalie have the same hourly rate

## Answers

1. C
2. A
3. A
4. B
5. D
6. C
7. C
8. C
9. B
10. A
11. B
12. A
13. D
14. C
15. B
16. A
17. C
18. B
19. B
20. B