

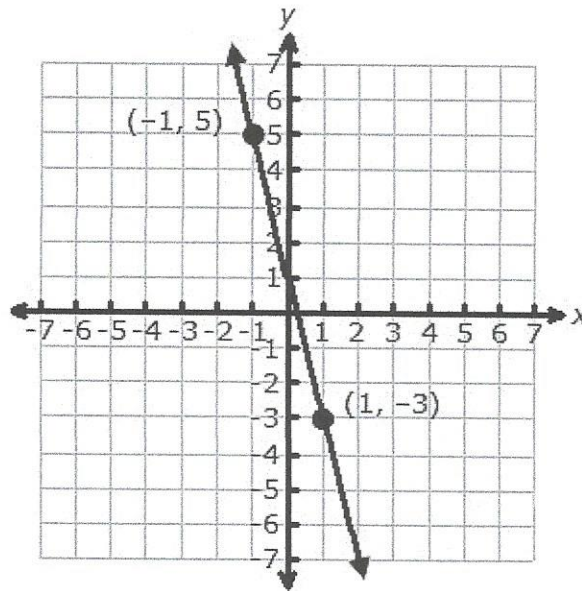
- 1 A line is graphed on the grid below.

$$m = \frac{(5) - (-3)}{(-1) - (1)}$$

$$= \frac{5+3}{-2}$$

$$= \frac{8}{-2}$$

$$= -4$$



What is the slope of the line graphed on the grid?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

- 2 A linear function in two variables is given below.

$$3x - 4y = 24$$

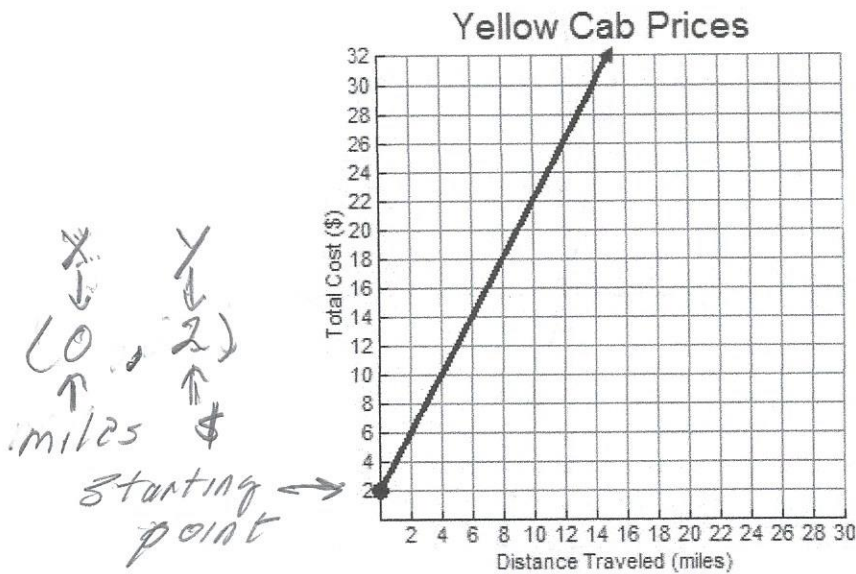
Which statement identifies the y-intercept, slope, and zero of the linear function?

- F The y-intercept is $(0, -6)$, the slope is $-\frac{3}{4}$, and the zero is $x = 8$.
- G The y-intercept is $(0, 8)$, the slope is $\frac{3}{4}$, and the zero is $x = -6$.
- H The y-intercept is $(0, 6)$, the slope is $\frac{3}{4}$, and the zero is $x = 8$.
- J** The y-intercept is $(0, -6)$, the slope is $\frac{3}{4}$, and the zero is $x = 8$.

$$\begin{array}{r} 3x - 4y = 24 \\ -3x \qquad \qquad -3x \\ \hline -4y = -3x + 24 \\ \frac{-4}{-4} \qquad \frac{-3x}{-4} \qquad \frac{24}{-4} \\ y = \frac{3}{4}x - 6 \end{array}$$

\uparrow \uparrow
 m b $(0, -6)$

- 3 The cost for renting a cab at the Yellow Cab Company is illustrated in the graph below.



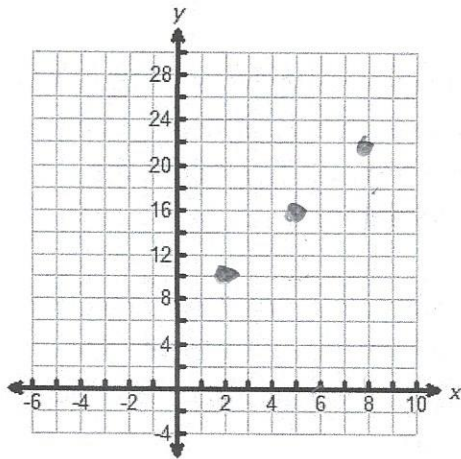
Which statement best describes the meaning of the y-intercept in the problem situation?

- A** The y-intercept (0, 2) means that the cab begins with 2 miles already on the meter.
- B** The y-intercept (0, 2) means that there is a \$2 initial fee for the cost of a cab ride from the Yellow Cab Company before any miles are driven.
- C** The y-intercept (0, 2) means that there is a \$2 refund for the cost of a cab ride from the Yellow Cab Company before any miles are driven.
- D** The y-intercept (0, 2) means that the cab does not begin charging for the cab ride until after 2 miles are on the meter.
- 4 Apex Plumbing charges a service call fee of \$55, plus \$15 for each hour of service. John wrote an equation using t , the total cost of a service call, as a function of h , the number of hours the service call lasted. What is the value of the slope in his equation and what does it represent?
- F** The slope is 15, and the slope represents the number of hours of service.
- G** The slope is 55, and the slope represents the service charge fee.
- H** The slope is 15, and the slope represents the rate charged per hour of service.
- J** The slope is 55, and the slope represents the rate charged per hour of service.

- 5 A table of values for a linear function is shown below.

x	y
2	10
5	16
8	22

Use the coordinate grid to graph the linear function.



What are the x- and y-intercepts of the linear function?

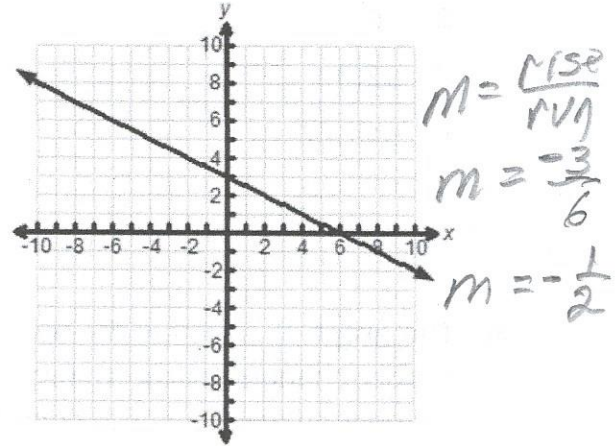
- A (6, 0) and (-3, 0)
- B (-3, 0) and (0, 6)**
- C (0, -3) and (6, 0)
- D (0, 6) and (0, -3)

- 6 Which representations have the same rate of change of y with respect to x as the equation

$$x + 2y = 6?$$

F $y = -\frac{1}{2}x + 2$

G



H

x	y
-15	-0.5
-10	-3
-5	-5.5
0	-8
5	-10.5
10	-13

$$\begin{aligned} &\Rightarrow \frac{(-3) - (-8)}{(-10) - (0)} \\ &\Rightarrow \frac{-3 + 8}{-10} \\ &= \frac{5}{-10} \\ &= -\frac{1}{2} \end{aligned}$$

- J** All of the above

$$\begin{aligned} x + 2y &= 6 \\ -x &\quad -x \\ \hline 2y &= -x + 6 \\ \frac{2y}{2} &= \frac{-x}{2} + \frac{6}{2} \\ y &= -\frac{1}{2}x + 3 \\ &\quad \uparrow \quad \uparrow \\ &\quad m \quad (0, 3) \end{aligned}$$

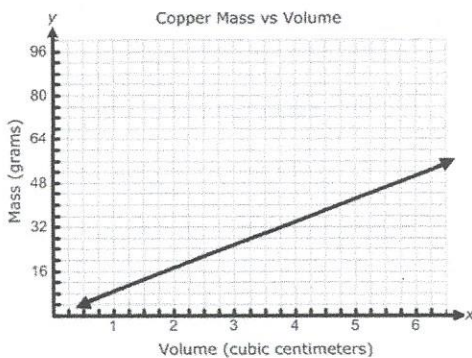
- 7 Peach Produces pays its employees by the formula, $P(b) = 45 + \frac{5}{2}b$, where $P(b)$ is the employee's total daily pay and b is the number of bushels of peaches picked. According to the formula, what is the rate employees are paid per bushel of peaches picked?

- A \$2.50
 B \$5.00
 C \$2.00
 D \$45.00

$$\begin{aligned} \text{ROC} \\ \text{ROC} = m &= \frac{5}{2} \\ &= 2.5 \end{aligned}$$

*

- 8 The graph shows how the mass of copper changes as the volume of the element changes and the density remains constant.



Which of these best represents the rate of change in the mass of copper with respect to the volume?

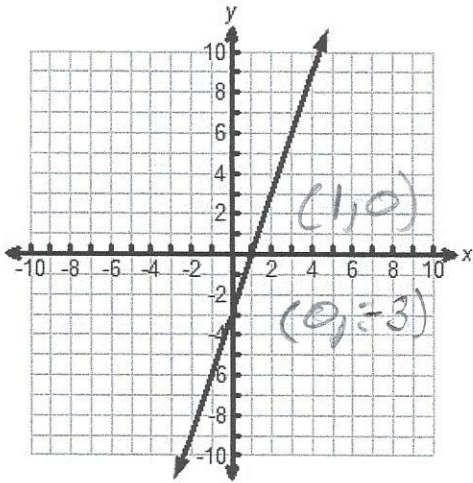
- F $\frac{4}{33} \text{ g/cm}^3$
 G $\frac{19}{41} \text{ g/cm}^3$
 H $8\frac{1}{4} \text{ g/cm}^3$
 J $4\frac{4}{7} \text{ g/cm}^3$

- 9 Determine the slope of the line that passes through the points $M(-3, 5)$ and $N(1, 8)$. Represent the slope in decimal form.

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

$$\begin{aligned} m &= \frac{(8) - (5)}{(1) - (-3)} \\ &= \frac{8-5}{1+3} \\ &= \frac{3}{4} \\ &= .75 \end{aligned}$$

- 10 The graph of a linear function is shown below.



What is the slope of the line represented by the graph?

- F $m = \frac{1}{3}$
 G $m = -\frac{1}{3}$
 H $m = 3$
 J $m = -3$

$$m = \frac{(0) - (-3)}{(1) - (0)}$$

$$m = \frac{3}{1}$$

- 11 A table of values for a linear function is shown below.

x	y
-10	$-1\frac{2}{3}$
-6	1
-2	$3\frac{2}{3}$
3	7
5	$8\frac{1}{3}$

Determine the slope of the line represented by the values in the table.

- A $m = \frac{8}{3}$
 B $m = 2$
 C $m = \frac{2}{3}$
 D $m = \frac{3}{2}$

$$m = \frac{(7) - (1)}{(3) - (-6)}$$

$$m = \frac{7-1}{3+6}$$

$$m = \frac{6}{9}$$

$$m = \frac{2}{3}$$

