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KEY

Class: _____

Date: _____

ID: A

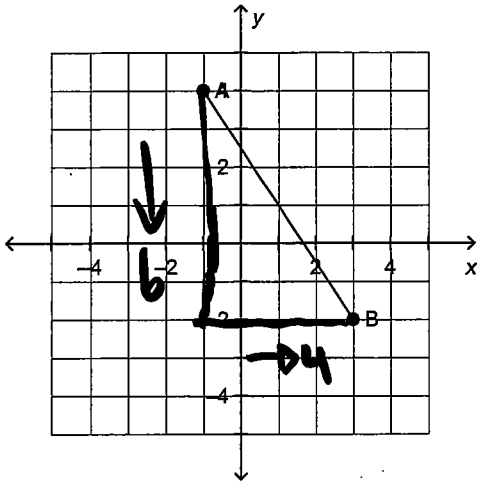
Linear Equations Unit 6 Practice Test

Multiple Choice

Identify the choice that best completes the statement or answers the question.

B

1. Determine the slope of this line segment.



Negative slope

$$m = \frac{-6}{4}$$

$$\boxed{-\frac{3}{2}}$$

- a. $-\frac{2}{3}$
- b. $-\frac{3}{2}$

- c. $\frac{2}{3}$
- d. $\frac{3}{2}$

D

2. Determine the slope of the line that passes through G(3, -3) and H(-5, 9).

- a. $\frac{3}{2}$
- b. $-\frac{2}{3}$

- c. $\frac{2}{3}$
- d. $-\frac{3}{2}$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{9 - (-3)}{-5 - 3}$$

B

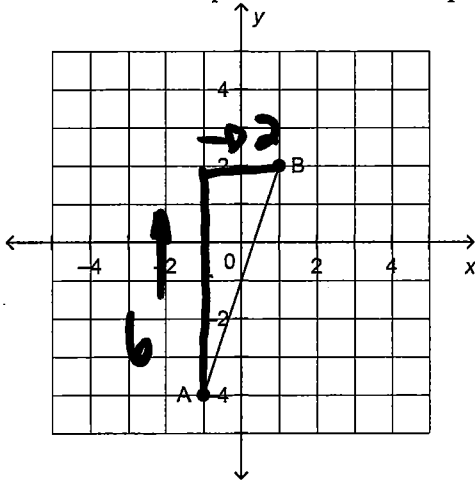
3. A road drops 0.7 m for every 4.7 m measured horizontally. What is the rise of the road?

- a. -4.7
- b. -0.7

- c. $-\frac{0.7}{4.7}$
- d. $-\frac{4.7}{0.7}$

$$\boxed{-\frac{0.7}{4.7}}$$

- D** 4. Determine the slope of the line that is perpendicular to this line segment.



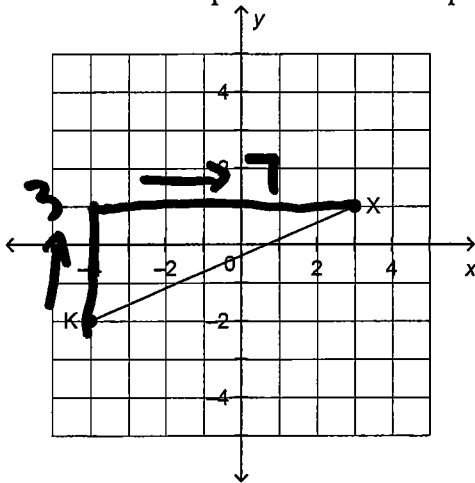
$m = \frac{6}{2} \text{ or } \frac{3}{1}$

therefore, $-\frac{1}{3}$ is

perpendicular
(negative reciprocal)

- a. 3
b. -3
c. $\frac{1}{3}$
d. $-\frac{1}{3}$

- C** 5. Determine the slope of the line that is parallel to this line segment.



$m = \frac{4}{7}$

therefore, parallel
is the same...

$\frac{4}{7}$

- a. $-\frac{3}{7}$
b. $\frac{7}{3}$
c. $\frac{3}{7}$
d. $-\frac{7}{3}$

- D** 6. Determine the slope of a line that is perpendicular to the line through W(-9, 7) and X(6, -10).

- a. $-\frac{15}{17}$
b. $-\frac{17}{15}$
c. -15
d. $\frac{15}{17}$

$m = \frac{y_2 - y_1}{x_2 - x_1}$ then neg. rec.

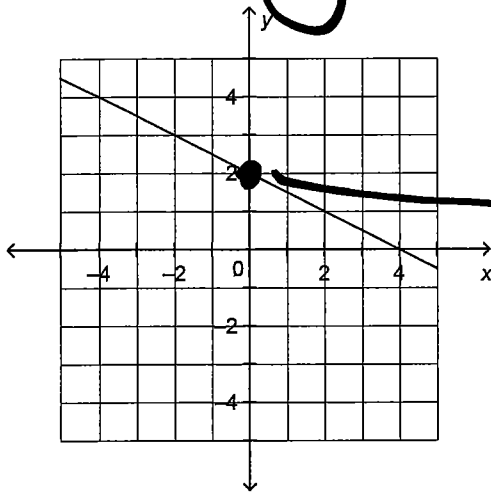
- D** 7. A line has x-intercept -5 and y-intercept 1. Determine the slope of a line parallel to this line.

- a. -5
b. $-\frac{1}{5}$
c. 5
d. $\frac{1}{5}$

x-int (-5, 0) y-int (0, 1)

$m = \frac{y_2 - y_1}{x_2 - x_1}$ then...

- C 8. The slope of this line is $-\frac{1}{2}$. What is the equation of the line?



$y = mx + b$

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

- a. $y = \frac{1}{2}x + 2$ c. $y = -\frac{1}{2}x + 2$
 b. $y = x + 2$ d. $y = x - \frac{1}{2}$

- C 9. For a service call, a plumber charges a \$95 initial fee, plus \$45 for each hour he works. Write an equation to represent the total cost, C dollars, for t hours of work.
- a. $t = 45C + 95$ c. $C = 45t + 95$
 b. $C = 95t + 45$ d. $C = 45t - 95$

- B 10. Describe the graph of the linear function with this equation: $y - 3 = \frac{1}{3}(x - 2)$

- a. The graph is a line through $(-2, 3)$ with slope $\frac{1}{3}$.
 b. The graph is a line through $(2, -3)$ with slope $\frac{1}{3}$.
 c. The graph is a line through $(2, -3)$ with slope $-\frac{1}{3}$.
 d. The graph is a line through $(-2, 3)$ with slope $-\frac{1}{3}$.

$y - 3 = \frac{1}{3}(x - 2)$
 ↑
 m
 ↓
 P. $(2, -3)$

- B 11. Write an equation for the graph of a linear function that has slope 8 and passes through $R(4, -3)$.

- a. $y + 3 = -8(x - 4)$
 b. $y + 3 = 8(x - 4)$
 c. $y + 3 = \frac{1}{8}(x - 4)$
 d. $y - 3 = 8(x + 4)$

$y - y_1 = m(x - x_1)$

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$$y - 3 = -\frac{1}{5}(x + 2) \text{ ID: A}$$

A 12. Write this equation in slope-intercept form: $y - 3 = -\frac{1}{5}(x + 2)$ \rightarrow multiply all terms by 5

a. $y = -\frac{1}{5}x + \frac{13}{5}$

c. $y = -x + \frac{13}{5}$

b. $y = -\frac{3}{5}x + \frac{13}{5}$

d. $y = \frac{1}{5}x + \frac{13}{5}$

$$5y - 15 = -1(x + 2)$$

$$5y = -\frac{1}{5}x + \frac{13}{5}$$

$$y = -\frac{1}{5}x + \frac{13}{5}$$

C 13. Determine the y-intercept of the graph of this equation: $y - 3 = 4(x + 5)$

a. 3

c. 23

b. -23

d. -20

$$y = 4x + 23$$

C 14. Write this equation in general form: $y + 5 = \frac{5}{3}(x - 3)$

a. $5x - 3y = -8$

c. $5x - 3y - 30 = 0$

b. $5x - 3y - 8 = 0$

d. $5x + 3y - 30 = 0$

D 15. Determine the x-intercept and the y-intercept for the graph of this equation: $2x - 3y + 36 = 0$

a. x-intercept: 18; y-intercept: 12

c. x-intercept: 18; y-intercept: -12

b. x-intercept: -18; y-intercept: -12

d. x-intercept: -18; y-intercept: 12

B 16. Write this equation in slope-intercept form: $10x + 3y - 4 = 0$

a. $y = \frac{10}{3}x + \frac{4}{3}$

c. $y = \frac{10}{3}x - \frac{4}{3}$

b. $y = -\frac{10}{3}x + \frac{4}{3}$

d. $y = -\frac{10}{3}x - 4$

$$10x + 3y - 4 = 0$$

$$3y = -\frac{10}{3}x + \frac{4}{3}$$

$$y = -\frac{10}{3}x + \frac{4}{3}$$

$$2x - 3y + 36 = 0$$

(-, 0) x-int

$$2x + 36 = 0$$

$$2x = -36$$

$$x = -18 \text{ } (-18, 0)$$

(0, -) y-int.

$$2x - 3y + 36 = 0$$

$$-3y = -36$$

$$y = 12 \text{ } (0, 12)$$