Warm Up

9-11-2014

1. Determine whether the relation $\{(7, 2), (-10, 3), (-5, -1), (7, 3)\}$ is a function. Explain.

2. Find $f(-6)$ if $f(x) = -2x + 20$

3. Solve for K:
$y = Kx$

4. Solve $6x + 3y = -12$ for y.

GO OVER HW...


Finding Slope???

SLOPE

$$\frac{\text{rise}}{\text{run}}$$

$$\frac{y_2 - y_1}{x_2 - x_1}$$

Four types of slope:

- Positive
- Negative
- Zero slope
- Undefined

When given two points, you find the slope by using the formula:

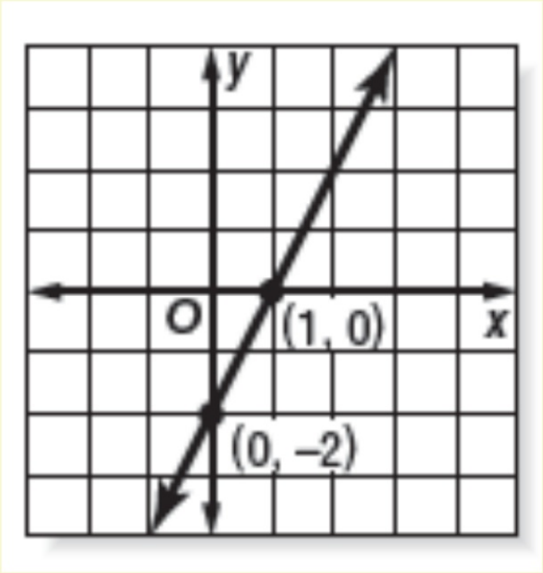
$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

(x_1, y_1) (x_2, y_2)

1. (-4, 7), (-10, 9)
2. (12, 6), (-2, 10)
3. (-5, -4), (-5, 10)
4. (6, -2), (0, -5)
5. (3, 10), (-15, 4)
6. (0, 9), (-16, 9)

$\frac{\text{rise}}{\text{run}}$

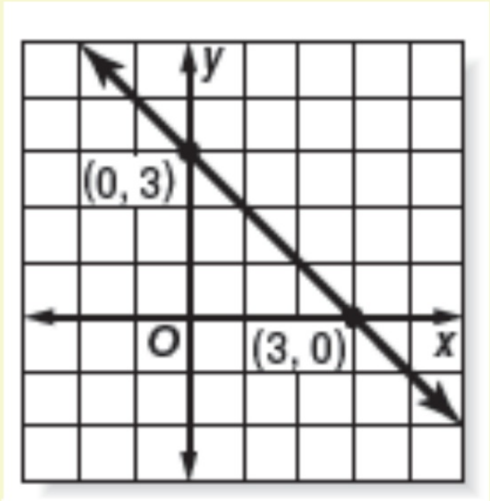
Use when given a graph and asked to find slope

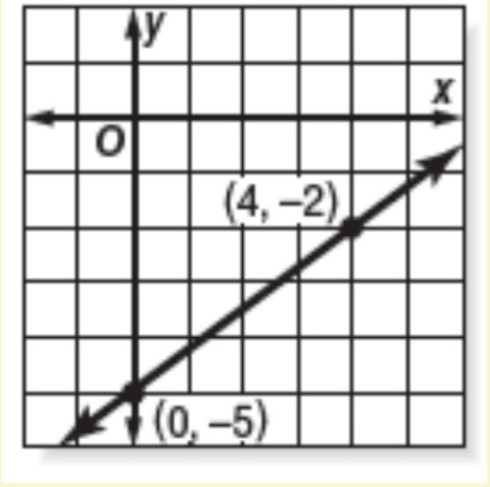


rise =

run =

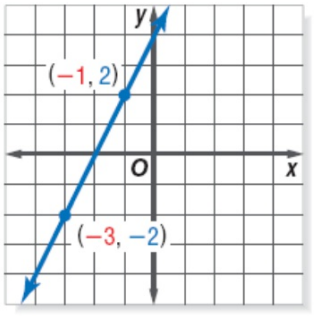
slope =


y
(0, 3)
O
(3, 0)
x

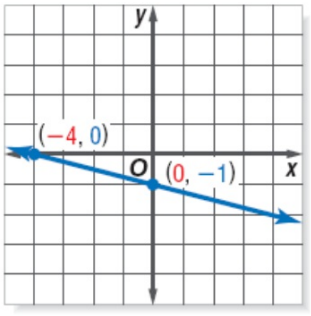

y
x
O
(4, –2)
(0, –5)

Find the slope of each line.

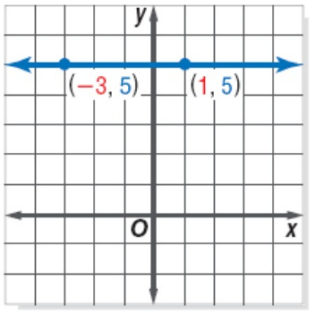
a.



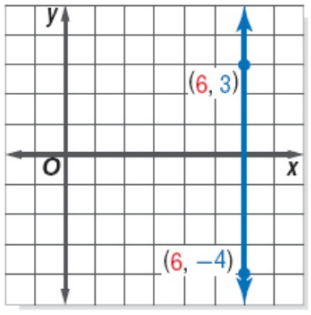
b.



c.



d.



Warm Up

Find the Slope of the Line:

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

1) (2, 4) (-1, -6)

x_1, y_1 x_2, y_2

$$= \frac{-6-4}{-1-2} = \frac{-10}{-3} = \frac{10}{3}$$

2) (-4, 8) (6, -4)

x_1, y_1 x_2, y_2

$$= \frac{-4-8}{6--4}$$

$$= \frac{-4-8}{6+4} = \frac{-12}{10}$$

$$= -\frac{6}{5}$$

Finding Slope Application:

1. If 3 movie tickets cost $26.25 and 5 cost $43.75, what would one movie ticket cost?

$(3, 26.25)$ $(5, 43.75)$

$\frac{43.75 - 26.25}{5 - 3} = \frac{17.50}{2} = \frac{\$8.75}{1}$

2. If I paid $17,500 in 2005 for my car brand new and in 2010 it is worth $5000. What is the yearly depreciation?

$\$2500$

$(17{,}500, 2005)$ $(5{,}000, 2010)$

$\frac{2010 - 2005}{5000 - 17{,}500} = \frac{5}{-12{,}500} = \frac{1}{-2{,}500}$

Step it up a notch:

Find the value of r so the line that passes through each pair of points has the given slope.

x_1 y_1 x_2 y_2

(6, 8), (r, -2), m = 1

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

$$1 = \frac{-2-8}{r-6}$$

$$(r-6)\cdot 1 = \frac{-10}{(r-6)}\cdot(r-6)$$

$$r - 6 = -10$$

$$+6 \quad +6$$

$$r = -4$$

(-1, -3), (7, r), m = −3/4

Identify The Slope

The standard form of a Linear Equaton is:

$y = mx + b$

Where m is the slope, and b is the y-intercept.

1. $y = -4x - 5$

2. $y = 1/2x + 2$

3. $y = x - 6$

4. $y = -19$

5. $x = 2$