

Name: Key Period: \_\_\_\_\_ Date: \_\_\_\_\_

Algebra 1  
Chapter 4 Practice Test

Find the slope between the two points.

1. (2,0) and (-3,4)

$$\begin{array}{r|l} x & y \\ \hline 2 & 0 \\ -3 & 4 \end{array}$$

$$m = \frac{0-4}{2-(-3)} = \frac{-4}{5}$$

2. (-8,1) and (2,1)

$$\begin{array}{r|l} x & y \\ \hline -8 & 1 \\ 2 & 1 \end{array}$$

$$m = \frac{1-1}{-8-2} = \frac{0}{-10} = 0$$

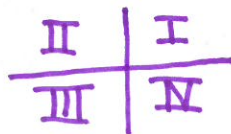
3. The point (-2,5) is in quadrant:

a.) I

**b.) II**

c.) III

d.) IV



4. An advertising company charges \$300,000 to create a commercial and \$150,000 each time a 30-second commercial is aired.

a.) Write an equation for the total cost  $C$  (in thousands of dollars) as a function of  $x$ , the number of times a commercial is aired.

$$C(x) = 150x + 300$$

b.) Graph the equation.

$x$	0	1	2	3	4	5
$C(x)$	300	450	600	750	900	1050

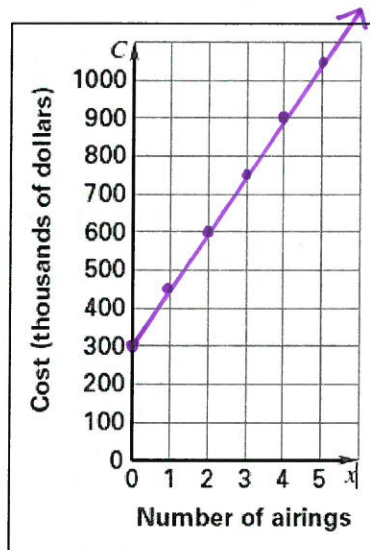
c.) How many times could a TV station air the commercial if the advertising company wants to spend \$900,000?

4 times

d.) Identify the domain and range.

Domain:  $x \geq 0$

Range:  $C(x) \geq 300$



5. The  $x$ -intercept of the line  $-2x + 3y = 16$  is:

↳ make  $y = 0$   $-2x = 16$   
 $x = -8$

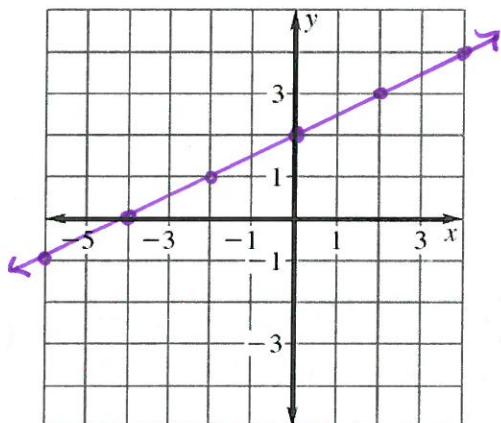
$x$ -intercept  $(-8, 0)$

$$y = -\frac{5}{2}x - 4$$

Graph the equations below.

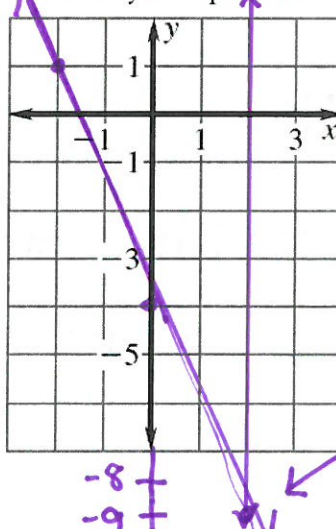
6.  $-5x + 10y = 20$

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



7.  $5x + 2y = -8$  and  $x = 2$  (on the same graph)

\*Identify their point of intersection.



Intersection  
 $(2, -9)$

8. Identify the slope and  $y$ -intercept of the line with the equation  $-4x + 3y = 15$ .

slope:  $\frac{4}{3}$

$y = \frac{4}{3}x + 5$

$y$ -intercept: 5

Given that  $y$  varies directly with  $x$ , write a direct variation equations that relates  $x$  and  $y$ .

9.  $x=2, y=12$

$y = 6x$

$y = mx$   
 $12 = m(2)$   
 $6 = m$

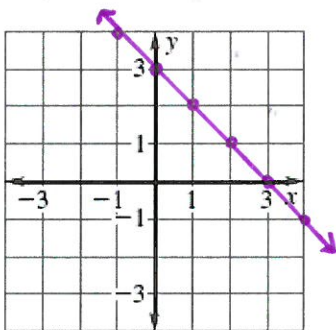
Complete the table for the function.

10.  $f(x) = 3x - 1$

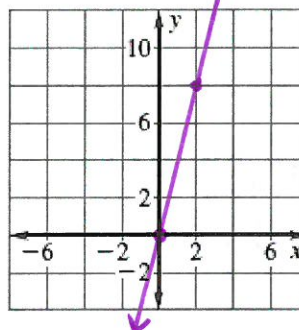
$x$	5	7	-5
$f(x)$	14	20	-16

Graph each function. Also, identify any direct variation equations.

11.  $y = 3 - x$   $m = -1$   $b = 3$

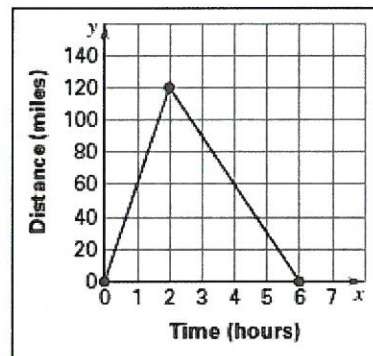


12.  $y = 4x$



This equation is a direct variation

13. The graph shows the distance of a car traveling along a straight road for 6 hours. A positive velocity (slope) is motion to the right, and a negative velocity (slope) is motion to the left.



a.) Does the car ever stop moving?

No

b.) What happens at the point (2,120)?

The car turns around

c.) During what time interval is the car traveling faster? What is its speed?

0-2 hours speed =  $\frac{120 - 0 \text{ (miles)}}{2 - 0 \text{ (hours)}} = \frac{120}{2} = 60 \text{ mph}$