Name: _____ **Date:** / /

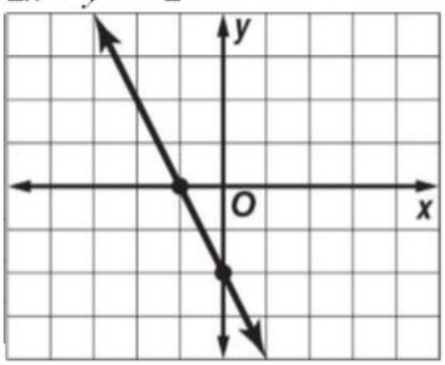
Grade: 8 ( ) **Ch: 3 L:1, 2, 3, 4**

Revision Sheet # 3

1- <u>Graph each equation by using the *x*– and *y*-intercepts</u>.

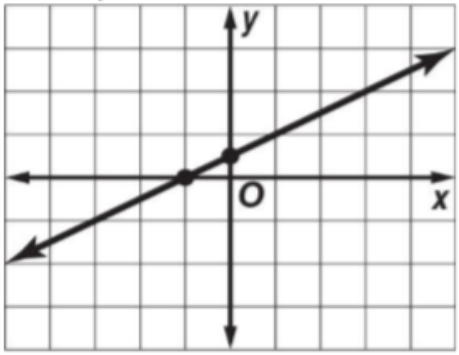
a)

$2x + y = -2$



b)

$3x - 6y = -3$



2- <u>Find the slope of the line that passes through each pair of points.</u>

a) (4, 9), (1, 6)

$$\frac{y2 - y1}{x2 - x1} = \frac{6 - 9}{1 - 4} = \frac{-3}{-3} = 1$$

b) (14, –6), (7, –6)

$$= \frac{-6 - (-6)}{7 - 14} = \frac{-6 + 6}{-7} = \frac{0}{-7}$$

$$= Slope\ of\ 0$$

c) (14, –8), (7, –6)

$$\frac{-6 - (-8)}{7 - 14} = \frac{-6 + 8}{-7} = \frac{2}{-7}$$

d) (2, 1), (2, 9)

$$= \frac{9 - 1}{2 - 2} = \frac{8}{0}$$

$$= undefined\ slope$$

3- Determine whether each equation is a linear equation. Write *yes* or *no*. If yes, write the equation in standard form.

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

yes; x – 2y = – 4

b) $3 + x + x^2 = 0$

No

c) $4x - 2y = -1$

yes; $4x - 2y = -1$

d) $x^2 = 2xy$

No

e) $6x - 2y = 8 + y$

yes; 6x – 3y = 8

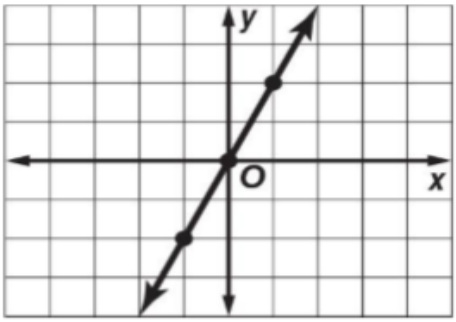
f) $yx - 2 = 8$

No

4- Graph each equation by making a table.

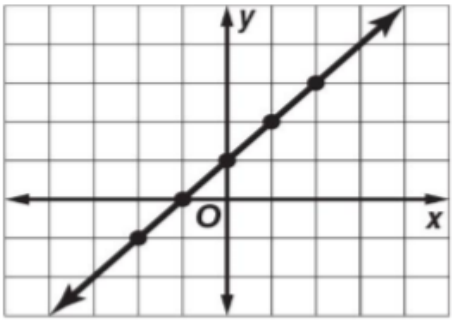
a)

$y = 2x$



b)

$x - y = -1$



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

a) $(-1, -3), (7, r), m = \frac{3}{4}$

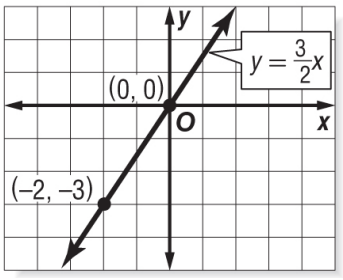
3

b) $(2, 8), (r, -4)\ m = -3$

6

6- <u>Name the constant of variation for each equation. Then determine the slope of the line that passes through each pair of points</u>.

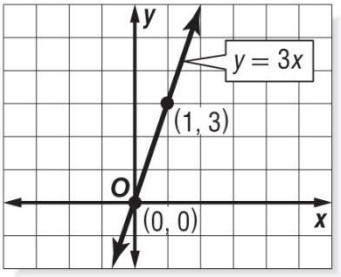
a)



Constant of variation: $\frac{3}{2}$

Slope : $\frac{y2 - y1}{x2 - x1} = \frac{-3 - 0}{-2 - 0} = \frac{3}{2}$

b)



Constant of variation **3**

Slope : $\frac{y2 - y1}{x2 - x1} = \frac{3 - 0}{1 - 0} = 3$

7- <u>Suppose *y* varies directly as *x*. Write a direct variation equation that relates *x* to *y*. Then solve.</u>

a) If $y = -9$ when $x = 3$, find y when $x = -6$.

y = –3x ; 18

b) If $y = -8$ when $x = -2$, find x when $y = 32$.

y = 4x ; 8

8- Problem Solving

a) Jessica wants to record her favorite songs to one CD. The function $C = 80 - 3.22n$ represents the recording time C available after n songs are recorded. Find the zero of this function. Describe what this value means in this context.

$C = 80 - 3.22n$

$0 = 80 - 3.22n$

$3.22n = 80$ $\qquad$ $n = \frac{80}{3.22} = 24.84$

just under 25; only 24 songs can be recorded on one CD