Suggestion: Do half.

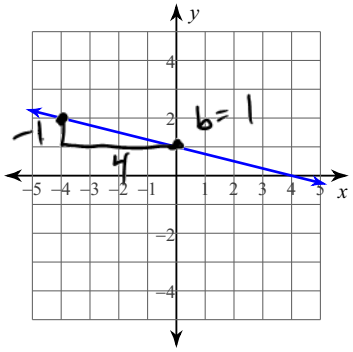
Writing Linear Equations

Name_____

Date_____

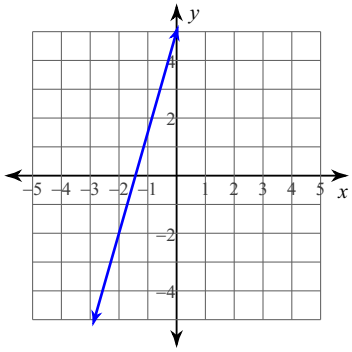
Write the slope-intercept form of the equation of each line.

1)

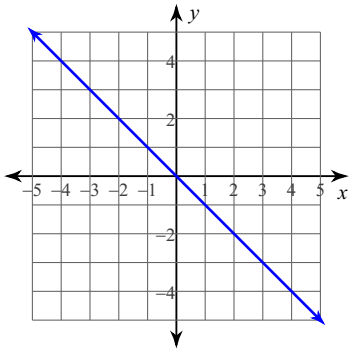


$y = -\frac{1}{4}x + 1$

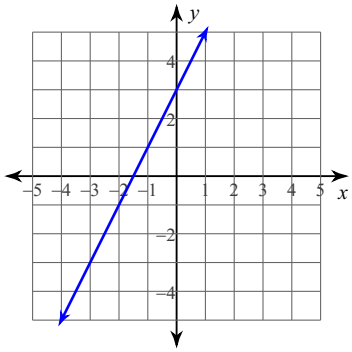
2)



3)



4)



Write the slope-intercept form of the equation of the line through the given point with the given slope.

5) through: $(4, -4)$, slope $= -9 = m$

x y

$y = mx + b$

$-4 = -9(4) + b$

$-4 \overset{+36}{} = -36 + b \overset{+36}{}$

$32 = b$

$y = -9x + 32$

6) through: $(4, -2)$, slope $= -\frac{7}{4}$

7) through: $(-2, -3)$, slope = 1

8) through: $(-1, 5)$, slope = –3

Write the slope-intercept form of the equation of the line through the given points.

9) through: $(0, -3)$ and $(3, -1)$

10) through: $(0, -2)$ and $(3, -3)$

$x_1\ y_1 \quad x_2\ y_2$

11) through: $(-3, -2)$ and $(2, 1)$

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

$$= \frac{1-(-2)}{2-(-3)} = \boxed{\frac{3}{5} = m}$$

$$y = mx + b$$

$$-2 = \frac{3}{5}(-3) + b$$

$$-2 = -\frac{9}{5} + b \quad +\frac{9}{5}$$

$$-\frac{1}{5} = b$$

$$y = \frac{3}{5}x - \frac{1}{5}$$

12) through: $(-3, 0)$ and $(0, -2)$

$$\frac{9}{5} - 2 \times \frac{5}{5} = \frac{9}{5} - \frac{10}{5}$$

$$= -\frac{1}{5}$$

Answers to Writing Linear Equations

1) $y = -\frac{1}{4}x + 1$

2) $y = \frac{7}{2}x + 5$

3) $y = -x$

4) $y = 2x + 3$

5) $y = -9x + 32$

6) $y = -\frac{7}{4}x + 5$

7) $y = x - 1$

8) $y = -3x + 2$

9) $y = \frac{2}{3}x - 3$

10) $y = -\frac{1}{3}x - 2$

11) $y = \frac{3}{5}x - \frac{1}{5}$

12) $y = -\frac{2}{3}x - 2$