

**Homework 11.2**

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

1) through:  $(4, 4)$ , slope = 1

$$\begin{aligned}y - 4 &= 1(x - 4) \\y - 4 &= x - 4 \\+4 &\quad +4 \\y &= x\end{aligned}$$

2) through:  $(-2, 5)$ , slope = -5

$$\begin{aligned}y - 5 &= -5(x + 2) \\y - 5 &= -5x - 10 \\+5 &\quad +5 \\y &= -5x - 5\end{aligned}$$

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

$$\begin{aligned}y + 3 &= 2(x - 1) \\y + 3 &= 2x - 2 \\-3 &\quad -3 \\y &= 2x - 5\end{aligned}$$

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

4) through:  $(2, 4)$  and  $(0, -2)$

$$m = \frac{4 + (-2)}{2 - 0} = \frac{2}{2} = 1$$

$$\begin{aligned}y - 4 &= 1(x - 2) & y &= x - 2 \\y - 4 &= x - 2 \\+4 &\quad +4 \\y &= x + 2\end{aligned}$$

6) through:  $(-1, -4)$  and  $(0, 5)$

$$m = \frac{-4 - 5}{-1 - 0} = \frac{-9}{-1} = 9$$

$$\begin{aligned}y + 4 &= 9(x + 1) & y &= 9x + 5 \\y + 4 &= 9x + 9\end{aligned}$$

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

$$m = \frac{3 + 1}{-1 - 0} = \frac{4}{-1} = -4$$

$$\begin{aligned}y - 3 &= -4(x + 1) \\y - 3 &= -4x - 4 \\+3 &\quad +3 \\y &= -4x - 1\end{aligned}$$

**Solve each equation.**

7)  $-156.06 = -5.1(0.9 + 5.5p)$

$$\begin{aligned}-156.06 &= -4.59 - 28.05p \\+4.59 &\quad +4.59 \\-151.47 &= -28.05p \\-28.05 &\quad -28.05 \\5.4 &= p\end{aligned}$$

8)  $1.7(-7.4x + 1.3) = 90.27$

$$\begin{aligned}-12.58x + 2.21 &= 90.27 \\-2.21 &\quad -2.21 \\-12.58x &= \frac{88.06}{-12.58} \\x &= -7\end{aligned}$$

## Answers to Homework 11.2

1)  $y = x$

5)  $y = -4x - 1$

2)  $y = -5x - 5$

6)  $y = 9x + 5$

3)  $y = 2x - 5$

7)  $\{5.4\}$

4)  $y = 3x - 2$

8)  $\{-7\}$