

Key

Name: _____

Unit 4: Linear Equations

Date: _____ Bell: _____

Homework 5: Writing Linear Equations
(Given Point & Slope)

Directions: Given the point and slope, write the equation of the line.

1. (4, 2); slope = 3

$$\begin{aligned} 2 &= 3(4) + b \\ 2 &= 12 + b \\ -12 &\quad -12 \\ \hline -10 &= b \end{aligned}$$

$$y = 3x - 10$$

2. (0, 3); slope = -2

$$\begin{aligned} 3 &= -2(0) + b \\ 3 &= 0 + b \\ 3 &= b \end{aligned}$$

$$y = -2x + 3$$

3. (1, -7); slope = -1

$$\begin{aligned} -7 &= -1(1) + b \\ -7 &= -1 + b \\ +1 &\quad +1 \\ \hline -6 &= b \end{aligned}$$

$$y = -x - 6$$

4. (-5, -3); slope = $-\frac{3}{5}$

$$\begin{aligned} -3 &= -\frac{3}{5}(-5) + b \\ -3 &= 3 + b \\ -3 &\quad -3 \\ \hline -6 &= b \end{aligned}$$

$$y = -\frac{3}{5}x - 6$$

5. (-8, 6); slope = $\frac{1}{4}$

$$\begin{aligned} 6 &= \frac{1}{4}(-8) + b \\ 6 &= -2 + b \\ +2 &\quad +2 \\ \hline 8 &= b \end{aligned}$$

$$y = \frac{1}{4}x + 8$$

6. (9, -4); slope = $-\frac{2}{3}$

$$\begin{aligned} -4 &= -\frac{2}{3}(9) + b \\ -4 &= -6 + b \\ +6 &\quad +6 \\ \hline 2 &= b \end{aligned}$$

$$y = -\frac{2}{3}x + 2$$

7. (6, -6); slope = $\frac{5}{6}$

$$\begin{aligned} -6 &= \frac{5}{6}(6) + b \\ -6 &= 5 + b \\ -5 &\quad -5 \\ \hline -11 &= b \end{aligned}$$

$$y = \frac{5}{6}x - 11$$

8. (-8, 9); slope = $-\frac{3}{2}$

$$\begin{aligned} 9 &= -\frac{3}{2}(-8) + b \\ 9 &= 12 + b \\ -12 &\quad -12 \\ \hline -3 &= b \end{aligned}$$

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

9. (-2, -11); slope = 4

$$\begin{aligned} -11 &= 4(-2) + b \\ -11 &= -8 + b \\ +8 &\quad +8 \\ \hline -3 &= b \end{aligned}$$

$$y = 4x - 3$$

10. (-4, 0); slope = $\frac{1}{2}$

$$\begin{aligned} 0 &= \frac{1}{2}(-4) + b \\ 0 &= -2 + b \\ +2 &\quad +2 \\ \hline 2 &= b \end{aligned}$$

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