

Module 6 Lesson 2

Are You Ready? Possible Solutions

$$\begin{aligned} 1. \quad a. \quad m &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{-3 - 5}{-8 - 4} \\ &= \frac{-8}{-12} \\ &= \frac{2}{3} \end{aligned}$$

$$\begin{aligned} b. \quad m &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{-14 - 7}{8 - (-1)} \\ &= \frac{-21}{9} \\ &= -\frac{7}{3} \end{aligned}$$

2. a. The slope is $\frac{3}{5}$; the y-intercept is (0, 3). The equation of the line is $y = \frac{3}{5}x + 3$.

b. The slope is $-\frac{4}{3}$; the y-intercept is (0, -4). The equation of the line is $y = -\frac{4}{3}x - 4$.

3. a. slope-point form
b. general form
c. slope-intercept form

$$\begin{aligned} 4. \quad a. \quad y &= -\frac{6}{11}x + 3 \\ 11y &= 11\left(-\frac{6}{11}x + 3\right) \\ 11y &= -6x + 33 \\ 6x + 11y - 33 &= 0 \end{aligned}$$

$$\begin{aligned} b. \quad y - 7 &= \frac{1}{2}x + 4 \\ 2(y - 7) &= 2\left[\frac{1}{2}(x + 4)\right] \\ 2y - 14 &= x + 4 \\ 2y - 14 - 2y + 14 &= x + 4 - 2y + 14 \\ x - 2y + 18 &= 0 \end{aligned}$$