5 CHAPTER REVIEW

5.2 Use Linear Equations in Slope-Intercept Form

pp. 292–299

EXAMPLE

Write an equation of the line that passes through the point (−2, −6) and has a slope of 2.

STEP 1 **Find** the y-intercept.

$y = mx + b$ **Write slope-intercept form.**

$-6 = 2(-2) + b$ **Substitute 2 for m, −2 for x, and −6 for y.**

$-2 = b$ **Solve for b.**

STEP 2 **Write** an equation of the line.

$y = mx + b$ **Write slope intercept form.**

$y = 2x - 2$ **Substitute 2 for m and −2 for b.**

EXERCISES

EXAMPLE 1 on p. 292 for Exs. 8–10

Write an equation in slope-intercept form of the line that passes through the given point and has the given slope m.

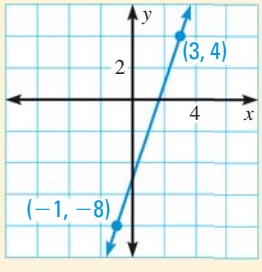
8. (−3, −1); $m = 4$ **9.** (−2, 1); $m = 1$ **10.** (8, −4); $m = -3$

5.3 Write Linear Equations in Point-Slope Form

pp. 302–308

EXAMPLE

Write an equation in point-slope form of the line shown.



STEP 1 **Find** the slope of the line.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-8 - 4}{-1 - 3} = \frac{-12}{-4} = 3$$

STEP 2 **Write** an equation. Use (3, 4).

$y - y_1 = m(x - x_1)$ **Write point-slope form.**

$y - 4 = 3(x - 3)$ **Substitute 3 for m, 3 for x_1, and 4 for y_1.**

EXERCISES

EXAMPLES 3 and 5 on pp. 303, 304 for Exs. 11–14

Write an equation in point-slope form of the line that passes through the given points.

11. (4, 7), (5, 1) **12.** (9, −2), (−3, 2) **13.** (8, −8), (−3, −2)

14. BUS TRIP A bus leaves at 10 A.M. to take students on a field trip to a historic site. At 10:25 A.M., the bus is 100 miles from the site. At 11:15 A.M., the bus is 65 miles from the site. The bus travels at a constant speed. Write an equation in point-slope form that relates the distance (in miles) from the site and the time (in minutes) after 10:00 A.M. How far is the bus from the site at 11:30 A.M.?