

## 2

## CHAPTER REVIEW

## 2.2 Find Slope and Rate of Change

pp. 82–88

## EXAMPLE

Find the slope  $m$  of the line passing through the points  $(-4, 12)$  and  $(3, -2)$ .

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-2 - 12}{3 - (-4)} = \frac{-14}{7} = -2$$

## EXERCISES

Find the slope of the line passing through the given points.

8.  $(-2, -1), (4, 3)$       9.  $(1, -5), (1, 2)$       10.  $(5, -3), (1, 7)$       11.  $(6, 2), (-8, 2)$

## EXAMPLE 2

on p. 82  
for Exs. 8–11

## 2.3 Graph Equations of Lines

pp. 89–96

## EXAMPLE

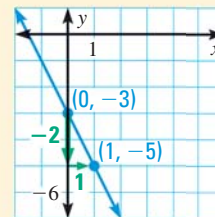
Graph  $3 + y = -2x$ .

**STEP 1** Write the equation in slope-intercept form,  
 $y = -2x - 3$ .

**STEP 2** The  $y$ -intercept is  $-3$ . So, plot the point  $(0, -3)$ .

**STEP 3** The slope is  $-2$ . Plot a second point by starting at  
 $(0, -3)$  and then moving down 2 units and right 1 unit.

**STEP 4** Draw a line through the two points.



## EXERCISES

Graph the equation.

12.  $y = 5 - x$       13.  $y - 5x = -4$       14.  $x = 4$       15.  $6x - 4y = 12$

## EXAMPLES

## 1, 2, and 4

on pp. 89–92  
for Exs. 12–15

## 2.4 Write Equations of Lines

pp. 98–104

## EXAMPLE

Write an equation of the line that passes through  $(-2, 5)$  and  $(-4, -1)$ .

The slope is  $m = \frac{-1 - 5}{-4 - (-2)} = 3$ . Use the point-slope form with  $(x_1, y_1) = (-2, 5)$ .

$$y - y_1 = m(x - x_1) \quad \text{Use point-slope form.}$$

$$y - 5 = 3(x - (-2)) \quad \text{Substitute for } m, x_1, \text{ and } y_1.$$

$$y = 3x + 11 \quad \text{Write in slope-intercept form.}$$

## EXERCISES

Write an equation of the line that passes through the given points.

16.  $(-3, 4), (2, -6)$       17.  $(-4, 5), (12, -7)$       18.  $(-4, 1), (3, -6)$

## EXAMPLE 4

on p. 100  
for Exs. 16–18