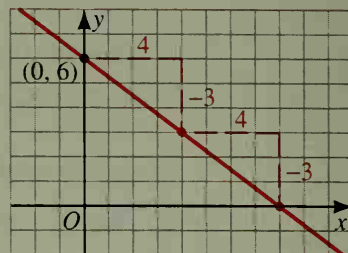


Example 3 Graph the line $y = -\frac{3}{4}x + 6$.

Solution The slope is $-\frac{3}{4}$ and the y-intercept is 6.

Step 1 Start at the point $(0, 6)$.

Step 2 Use $\frac{\text{change in } y}{\text{change in } x} = \frac{-3}{4}$ to find other points of the line.
(See Example 2, page 530.)



Classroom Exercises

- Which points lie on the line $3x - 2y = 12$?
a. $(0, 4)$ b. $(2, -3)$ c. $\left(3, \frac{3}{2}\right)$ d. $(0, -6)$
- Which point is the intersection of $x + 2y = 8$ and $2x + 3y = 10$?
a. $(-2, 5)$ b. $(-4, 6)$ c. $(2, 3)$ d. $(-1, 4)$

Find the x- and y-intercepts of each line.

- $2x + 3y = 6$
- $3x - 5y = 15$
- $-4x + 3y = 24$
- $x + 3y = 9$
- $y = 5x - 10$
- $y = 2x + 5$

Find the slope and y-intercept of each line.

- $y = \frac{2}{5}x - 9$
- $2x + y = 8$
- $3x - 4y = 6$
- What is the slope of the line $y = 4$? Name three points that lie on the line.
- The graph of $x = 5$ is a vertical line through $(5, 0)$. Name three other points on the line and check to see if their coordinates satisfy the equation.

Written Exercises

- A**
- On the same axes, graph $y = mx$ for $m = 2, -2, \frac{1}{2}$, and $-\frac{1}{2}$.
 - On the same axes, graph $y = mx + 2$ for $m = 3, -3, \frac{1}{3}$, and $-\frac{1}{3}$.
 - On the same axes, graph $y = \frac{1}{2}x + b$ for $b = 0, 2, 4, -2$, and -4 .
 - On the same axes, graph $y = -\frac{2}{3}x + b$ for $b = 0, 3, 6, -3$, and -6 .
 - On the same axes, graph the lines $y = 0$, $y = 3$, and $y = -3$.
 - On the same axes, graph the lines $x = 0$, $x = 2$, and $x = -2$.