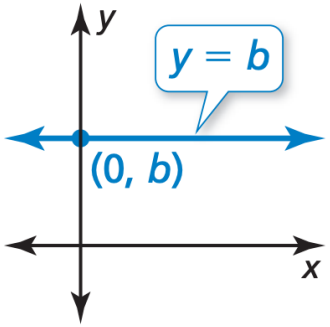
Bell Work

Graph using a table.

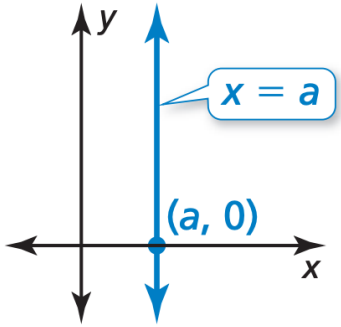
$$y = 2x - 1$$

KEY IDEAS

Horizontal and Vertical Lines



The graph of $y = b$ is a horizontal line. The line passes through the point $(0, b)$.



The graph of $x = a$ is a vertical line. The line passes through the point $(a, 0)$.

Horizontal and Vertical Lines

Graph each linear equation.

$$y = 4$$

Horizontal and Vertical Lines

Graph each linear equation.

$$x = -2$$

Standard Form

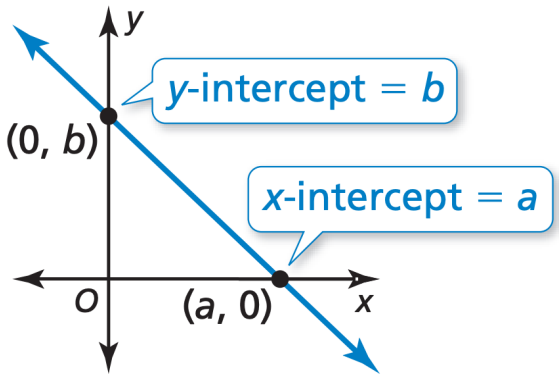
The **standard form** of a linear equation is $Ax + By = C$, where A, B, and C are real numbers and A and B are not both zero.

KEY IDEA

Using Intercepts to Graph Equations

To graph the linear equation $Ax + By = C$ using intercepts, find the intercepts and draw the line that passes through them.

- To find the x-intercept, let $y = 0$ and solve for x.
- To find the y-intercept, let $x = 0$ and solve for y.



Graphing in Standard Form

Use intercepts to graph the equation.

$$3x + 4y = 12$$

Graphing in Standard Form

Use intercepts to graph the equation.

$$2x - y = 4$$

Graphing in Standard Form

Use intercepts to graph the equation.

$$x + 3y = -9$$

Graphing in Standard Form

Use intercepts to graph the equation.

$$\frac{3}{4}x + 2y = 6$$

You are planning an awards banquet and need to rent tables to seat 180 people. There are two table sizes available. Small tables seat 6 people, and large tables seat 10 people. The equation $6x + 10y = 180$ models this situation, where x is the number of small tables and y is the number of large tables.

a. Interpret the terms and coefficients of the equation.

b. Graph using the intercepts.

c. Find three possible solutions in the context of the problem.