

Since ordered pairs are represented by  $(x, y)$ , an equation can be used to represent  $x$  and  $y$ . You can then substitute numbers for  $x$ , solve for  $y$ , plot the points  $(x, y)$ , and graph the line of the equation.

**EXAMPLE 1** Graph  $y = 2x$ .

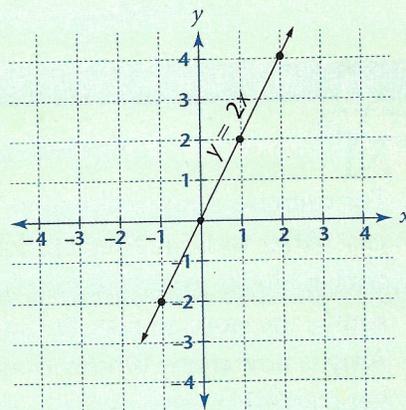
**Step 1** Assign values for  $x$ . For example, let  $x = -1, 0, 1,$  and  $2$ .

**Step 2** Solve  $y = 2x$  for  $y$ . Display the results in a table.

$y = 2x$	
$x$	$y$
-1	-2
0	0
1	2
2	4

**Step 3** Plot the points shown in the table, then graph the line.

The graph of the equation  $y = 2x$  forms a straight line.



**EXAMPLE 2**

Graph  $y = 2x - 3$ .

**Step 1** Assign two values for  $x$ . Let  $x = -1$  and  $x = 1$ .

**Step 2** Solve for  $y$ .

$$\begin{array}{ll} y = 2x - 3 & y = 2x - 3 \\ y = 2(-1) - 3 & y = 2(1) - 3 \\ y = -2 - 3 & y = 2 - 3 \\ y = -5 & y = -1 \end{array}$$

When  $x = -1, y = -5$ . When  $x = 1, y = -1$ .

$(-1, -5)$        $(1, -1)$

**Step 3** Plot the points  $(-1, -5)$  and  $(1, -1)$ . Then graph and label the line.

