

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 $y = 2x$.

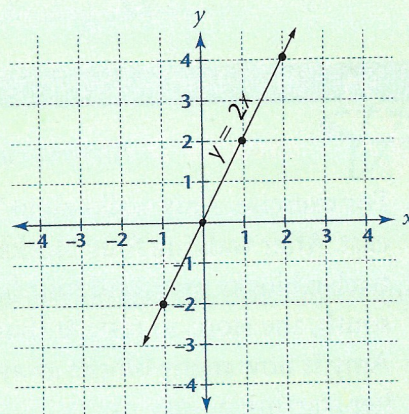
Step 1 Assign values for x . For example, let $x = -1, 0, 1$, and 2 .

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.

