

Lesson 7-4

Example 1

Find three solutions of the equation $y = 3x - 5$.

Solution

To find three solutions of the equation $y = 3x - 5$, first choose three values for x . You can choose a negative number, zero, and a positive number for these values.

$y = 3x - 5$	$\text{Let } x = -1.$	$y = 3x - 5$	$\text{Let } x = 0.$	$y = 3x - 5$	$\text{Let } x = 4.$
$y = 3(-1) - 5$		$y = 3(0) - 5$		$y = 3(4) - 5$	
$y = -3 - 5$		$y = 0 - 5$		$y = 12 - 5$	
$y = -8$		$y = -5$		$y = 7$	

Write the solutions in a table.

x	y	(x, y)
-1	-8	(-1, -8)
0	-5	(0, -5)
4	7	(4, 7)

When $x = -1, y = -8.$

When $x = 0, y = -5.$

When $x = 4, y = 7.$

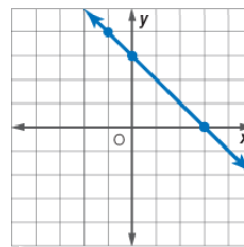
Example 2

Graph the equation $y = -x + 3$.

Solution

Make a table of at least three solutions of the equation. Graph the ordered pairs. Draw a line through the points.

x	y	(x, y)
-1	4	(-1, 4)
0	3	(0, 3)
3	0	(3, 0)



All the points on the line are solutions of the equation $y = -x + 3$.

Example 3

Find the x -intercept and y -intercept of $y = \frac{3}{4}x - 9$

Solution

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

$$0 = \frac{3}{4}x - 9$$

$$9 = \frac{3}{4}x \quad \text{Add 9 to both sides.}$$

$$\frac{4}{3} \cdot 9 = \frac{4}{3} \cdot \frac{3}{4}x \quad \text{The reciprocal of } \frac{3}{4} \text{ is } \frac{4}{3}.$$

$$12 = x$$

The x -intercept is 12.

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

$$y = \frac{3}{4} \cdot 0 - 9$$

$$y = 0 - 9$$

$$y = -9$$

The y -intercept is -9 .

Example 4

PART-TIME JOB Chelsea earns \$6/hr working as a cashier. The amount she earns is a function of the number of hours she works. Write an equation for this function. Graph the function.

Solution

Let x = the number hours worked and y = the amount earned in dollars. So $y = 6x$.

Make a table of solutions. Use the ordered pairs to graph the function.

x	y	(x, y)
1	6	(1, 6)
2	12	(2, 12)
3	18	(3, 18)

