

Main Concept

**Points as
Solutions**

Checking Solutions

$$3x + 7 = -2$$

$$x = -3$$

$$3(-3) + 7 = -2$$

Plug in x!

$$-9 + 7 = -2$$

$$-2 = -2$$

Is this a solution?

Solution: A number that makes an equation true

Checking Solutions

What if we have 2 variables?

$$y = 4x + 1$$

$$\begin{array}{l} x = 1 \\ y = 5 \end{array}$$

$$(5) = 4(1) + 1$$

Plug in y!

$$5 = 4 + 1$$

Plug in x!

Is this a solution?

$$5 = 5$$

Solution: A group of numbers that makes an equation true

Is the point a solution?

$$y = 2x \quad (1, 3)$$

Is (1, 3) a solution to $y = 2x$?

Check: $y = 2x \quad (1, 3)$

Plug in x and y $(3) = 2(1)$

$3 = 2$

$\uparrow \quad \uparrow$
 $x \quad y$

(1, 3) is not a solution to $y = 2x$

Is the point a solution?


$$y = 2x \quad (4, 8)$$

Is (4, 8) a solution to $y = 2x$?

Check: $y = 2x$ $(4, 8)$

Plug in x and y $(8) = 2(4)$ $\begin{matrix} \uparrow & \uparrow \\ x & y \end{matrix}$

$8 = 8$



(4, 8) is a solution to $y = 2x$

Practice

You Try!

Are these points solutions to the equation?

1. $y = 3x$

(2, -6) **no**

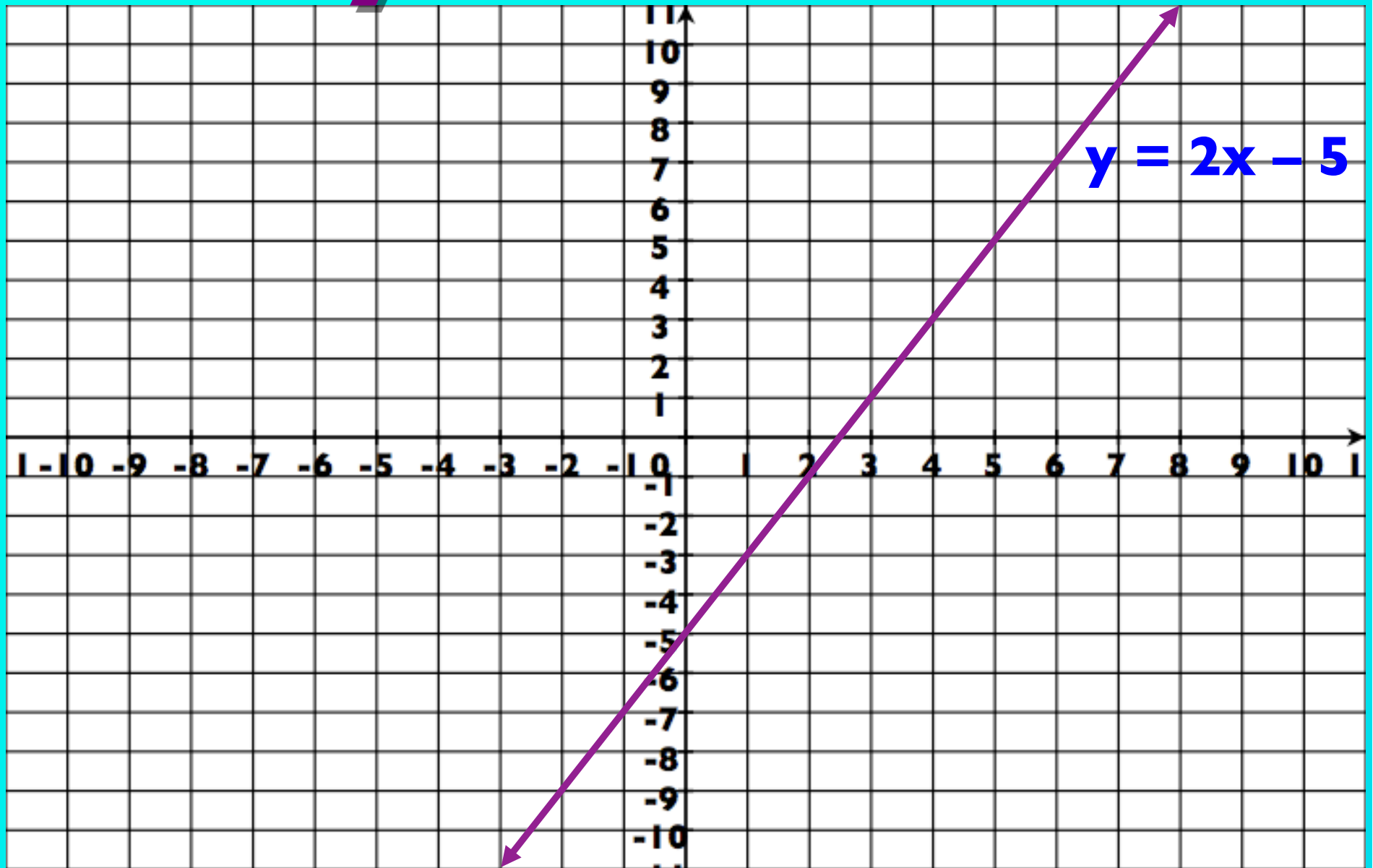
(-1, -3) **yes**

2. $y = -x - 4$

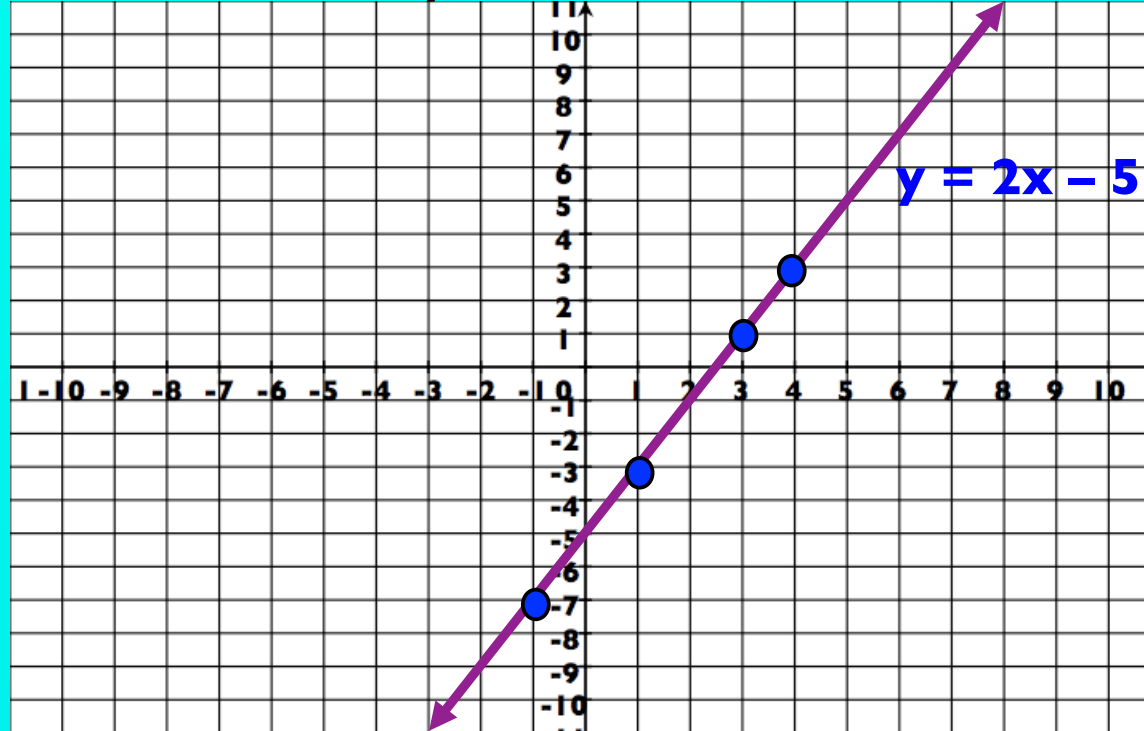
(-3, -1) **yes**

(5, 1) **no**

$$y = 2x - 5$$



$$y = 2x - 5$$



Points on the line

$(-1, -7)$ $(3, 1)$

$(1, -3)$ $(4, 3)$

What do these points look like in a table?

x	y
-1	-7
1	-3
3	1
4	3

Table of Ordered Pairs

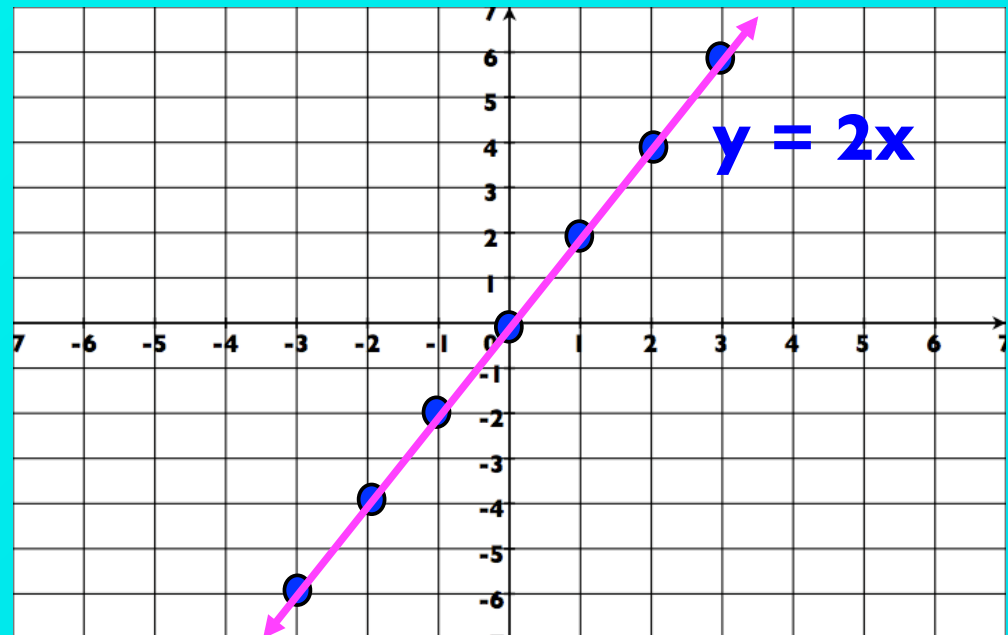
How can we graph this equation?

$$y = 2x$$

Make a table of ordered pairs.

x	y
-3	-6
-2	-4
-1	-2
0	0
1	2
2	4
3	6

Plot each **row** as a **point**.



Connect the points with a **straight line** and **label it**.

Table of Ordered Pairs

You Try!

Make a table of ordered pairs and graph the line.

$$y = -x + 4$$

x	y
-3	7
-2	6
-1	5
0	4
1	3
2	2
3	1

