

Name _____

Date: _____

Objective: SWBAT Graph linear equations

	Vocabulary
<u>Linear Equation:</u>	An equation whose graph is a line.
<u>Standard Form:</u>	$Ax + By = C$ $2x + 3y = 5$
	Where A, B, C are real numbers and not equal to 0

Example: Which ordered pair is a solution of $3x - y = 7$ (3,4) and (1,-4)

$$3x - y = 7 \quad (3, 4)$$

$x \quad y$

$$3(3) - 4 = 7$$
$$9 - 4 = 7$$
$$5 \neq 7$$

$$3x - y = 7 \quad (1, -4)$$
$$3(1) - (-4) = 7$$
$$3 + 4 = 7$$
$$7 = 7 \text{ yes}$$

Try it...Tell whether $(4, -\frac{1}{2})$ is a solution of $x + 2y = 5$

$$4 + 2\left(-\frac{1}{2}\right) = 5$$
$$4 - 1 = 5$$
$$3 \neq 5 \text{ no}$$

Guided Notes 3.2 Graph Linear Equations

Example: Graph the equation $-2x + y = -3$

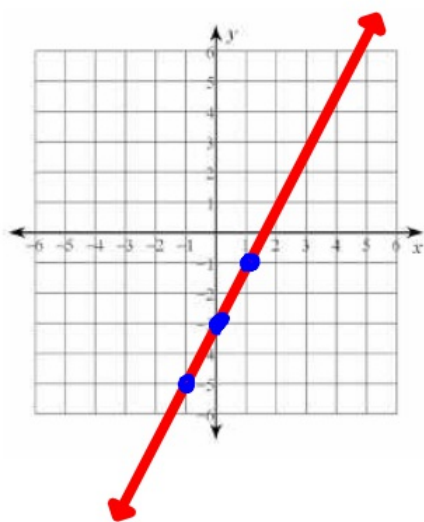
Step 1: Solve the equation for y

$$\begin{array}{r} -2x + y = -3 \\ +2x \qquad \qquad +2x \\ \hline y = 2x - 3 \end{array}$$

Step 2: Make a table by choosing a few values for x

x	$y = 2x - 3$	y
-1	$2(-1) - 3$ $-2 - 3$	-5
0	$2(0) - 3$ $0 - 3$	-3
1	$2(1) - 3$ $2 - 3$	-1

Step 3: Plot the points and connect



Guided Notes 3.2 Graph Linear Equations

Graph the equation $y + 3x = -2$

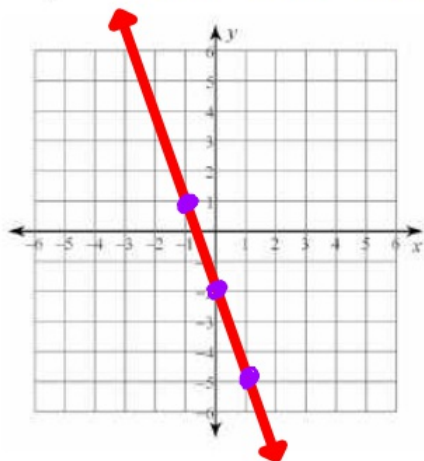
Step 1: Solve for y

$$\begin{array}{r} y + 3x = -2 \\ -3x \quad -3x \\ \hline y = -3x - 2 \end{array}$$

Step 2: Make a table

x	$y = -3x - 2$	y
-1	$-3(-1) - 2$ $3 - 2$	1
0	$-3(0) - 2$ $0 - 2$	-2
1	$-3(1) - 2$ $-3 - 2$	-5

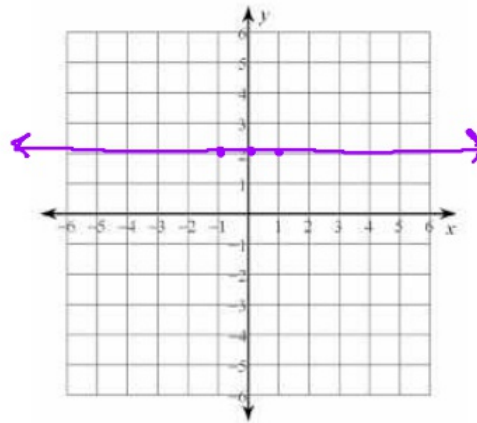
Step 3: Plot and Connect



Guided Notes 3.2 Graph Linear Equations

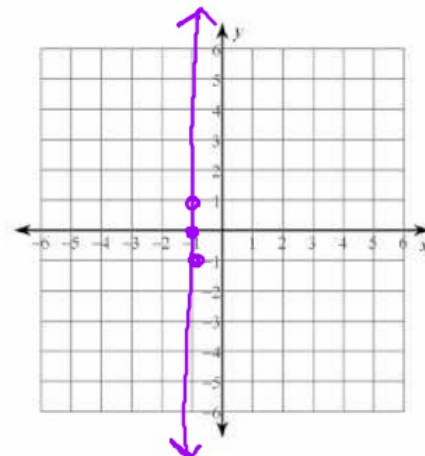
Example: Graph $y = 2$

x	y
-1	2
0	2
1	2



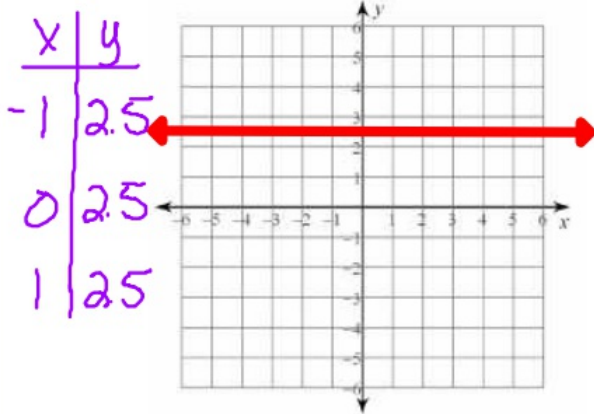
Graph $x = -1$

x	y
-1	-1
-1	0
-1	1

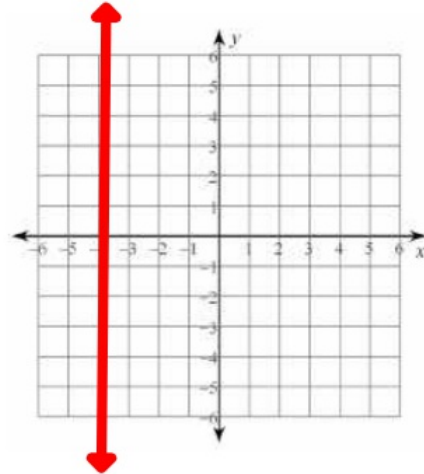


Guided Notes 3.2 Graph Linear Equations

Graph the equation $y = 2.5$



Graph the equation $x = -4$



x values

Example: Graph the Function with a domain $x \geq 0$ then identify the range

$$y = -\frac{1}{2}x + 4$$

y values

x	$y = -\frac{1}{2}x + 4$	y
0	$-\frac{1}{2}(0) + 4$ $0 + 4$	4
2	$-\frac{1}{2}(2) + 4$ $-1 + 4$	3
4	$-\frac{1}{2}(4) + 4$ $-2 + 4$	2