

6-3 Graphing Linear Equations using a Table of Values

Learning Target: *I can graph a line that models an equation using a table of values.*

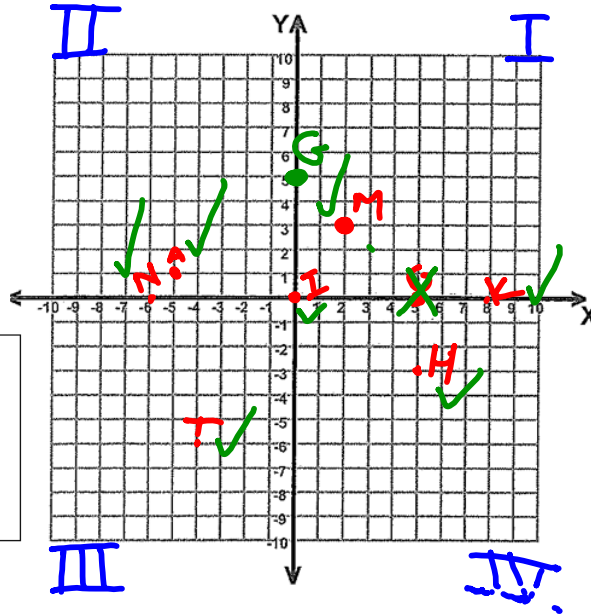
Warm Up: Given the coordinate plane below:

- (1) Label the four Quadrants (I, II, III, IV)
- (2) Give the quadrant or the axis of each point.

a) (3, 1)	$\frac{1}{4}$	g) (-8, -4)	$\frac{3}{2}$
b) (-8, 2)	$\frac{2}{4}$	h) (0, -2)	$\frac{1}{2}$
c) (7, -4)	$\frac{4}{4}$	i) (-5, 5)	$\frac{1}{2}$
d) (-9, -2)	$\frac{3}{4}$	j) (6, 0)	X
e) (2, -9)	$\frac{4}{4}$	k) (2, 2)	$\frac{1}{4}$
f) (0, 0)	origin	l) (1, -8)	$\frac{4}{4}$

(3) Plot each of the following points & label.

- | | |
|-----------------------|----------------------|
| M (2, 3) | K (8, 0) |
| A (-5, 1) | I (0, 0) |
| T (-4, -6) | N (-6, 0) |
| H (3, -3) | G (0, 5) |



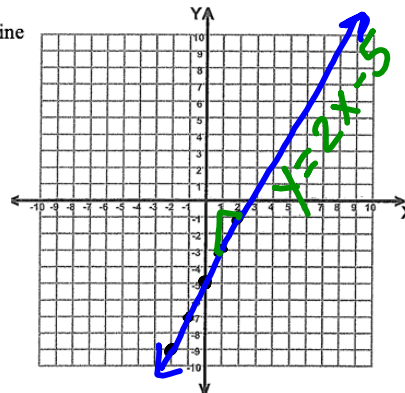
Steps for graphing a line, using a table:

- 1) Make sure your equation is in the form $y =$ _____
- 2) Pick several "x" values for the table
- 3) Substitute those values in for X and **solve** for y
- 4) List these (x, y) values as **points** of the line
- 5) Graph the points
- 6) Connect the points with a ruler and put arrows on your line
- 7) Label the line using the original equation

Exercise 1-

Rule
 $y = 2x - 5$

x	y	(x,y)
-2	$2(-2) - 5 = -9$	$(-2, -9)$
-1	$2(-1) - 5 = -7$	$(-1, -7)$
0	$2(0) - 5 = -5$	$(0, -5)$
1	$2(1) - 5 = -3$	$(1, -3)$
2	$2(2) - 5 = -1$	$(2, -1)$



Exercise 3- $(2y) - 4x = 4$

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

$$y = 2x + 2$$

x	$y = 2x + 2$	y	(x,y)
-1	$2(-1) + 2$	0	(-1, 0)
0	$2(0) + 2$	2	(0, 2)
1	$2(1) + 2$	4	(1, 4)
2	$2(2) + 2$	6	(2, 6)
3	$2(3) + 2$	8	(3, 8)

Slope-Intercept Form: a way of writing the equation of a line. (a "LINEAR" equation!)

slope $m = \frac{\text{Rise}}{\text{Run}}$

$$y = mx + b$$

y-intercept

→ The point where the line touches the y-axis.

