Today's Plan:

Learning Target (standard): I will graph linear equations using the intercept method.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

NAME _____   #51

BELL RINGER

1.) Solve $-2x - 3 > 7$. $x < -5$

$+3 +3$

$\dfrac{-2x}{-2} > \dfrac{10}{-2}$

2.) Find the median of the data set.   median = 8

6, 4, 2, 9, 11, 12, 16, 7, 8

"middle"

$2, 4, 6, 7, (8), 9, 11, 12, 16$

3.) Find the x-intercept of the equation $-3x + 4y = 8$.

$I_x : \left(-\dfrac{8}{3}, 0\right)$ $-3x + 4(0) = 8$

$\dfrac{-3x}{-3} = \dfrac{8}{-3}$

$x = -\dfrac{8}{3}$

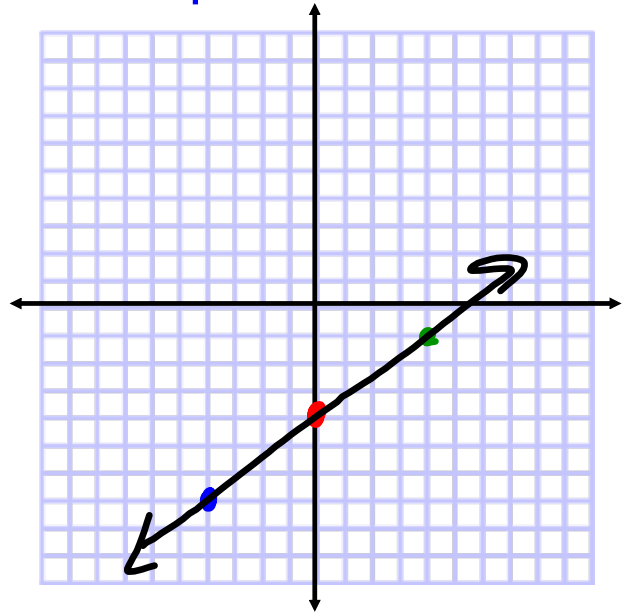## Graph using the slope-intercept method:

$$-3x + 4y = -16$$
$$+3x \qquad\qquad +3x$$

$$\frac{4y}{4} = \frac{3x}{4} - \frac{16}{4}$$

$$\boxed{y = \frac{3}{4}x - 4}$$

$$M = \frac{3}{4}$$

$$I_y : (0, -4)$$

Graph using a t-chart:

$$4x - 5y = 20$$
$$-4x \qquad\qquad -4x$$

$$\frac{-5y}{-5} = \frac{-4x}{-5} + \frac{20}{-5}$$

$$\boxed{y = \frac{4}{5}x - 4}$$

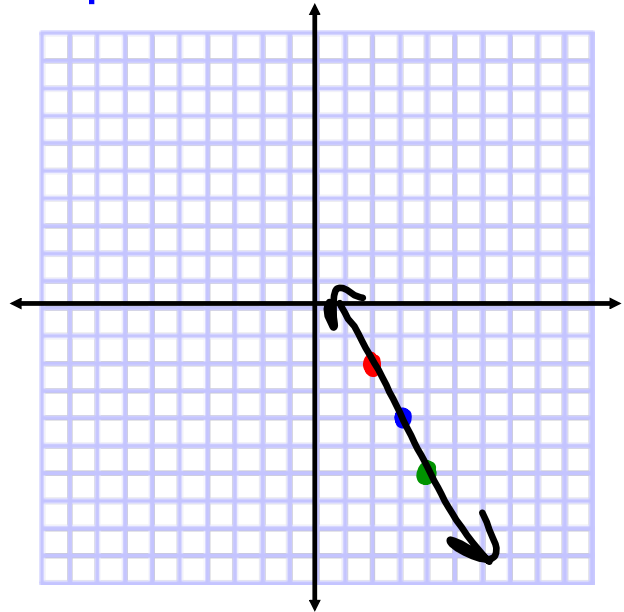| x	y
-5	-8
0	-4
5	0

$$y = \frac{4}{5}(-5) - 4$$

$$y = \frac{4}{5}(5) - 4$$
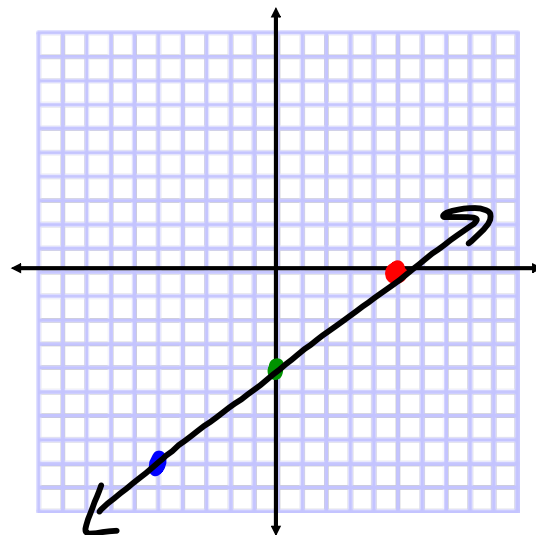
Graph using the point-slope method:
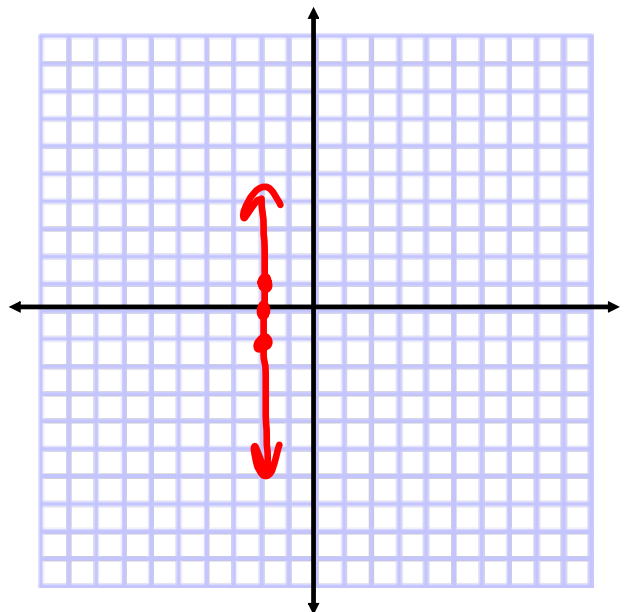
$$y + 4 = -2(x - 3)$$

$$m = -2$$

$$(x, y): (3, -4)$$

Graph using a t-chart:

$$-4x - 2 = 6$$
$$+2 +2$$

$$\frac{-4x}{-4} = \frac{8}{-4}$$

$$\boxed{X = -2}$$

X	Y
-2	-1
-2	0
-2	1

Graph using the slope-intercept method:

$$2x - 3y = -12$$
$$-2x \qquad -2x$$

$$-3y = -2x - 12$$
$$\frac{}{-3} \quad \frac{}{-3} \quad \frac{}{-3}$$

$$\boxed{y = \frac{2}{3}x + 4}$$

$$m = \frac{2}{3} \nearrow$$

$$I_y : (0, 4)$$
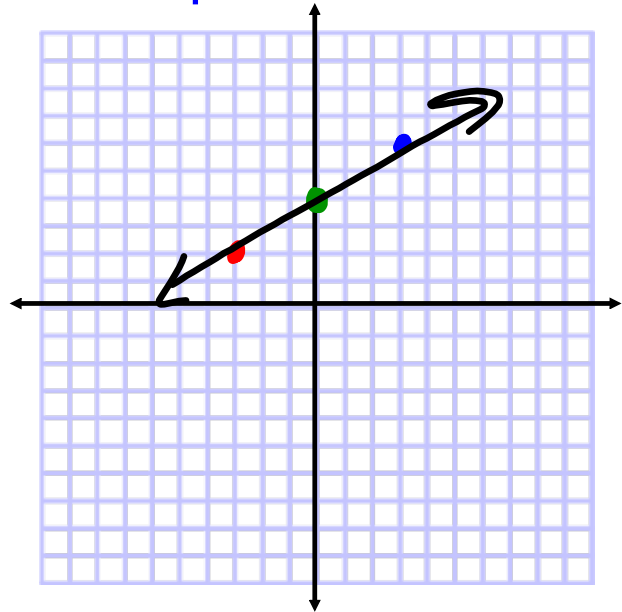
Graph using a t-chart:

$$2x - 6y = 12$$
$$-2x \qquad -2x$$

$$-6y = -2x + 12$$
$$\frac{}{-6} \quad \frac{}{-6} \quad \frac{}{-6}$$

$$\boxed{y = \frac{1}{3}x - 2}$$

x	y
-3	-3
0	-2
3	-1

$$y = \frac{1}{3}(-3) - 2$$

$$y = \frac{1}{3}(3) - 2$$
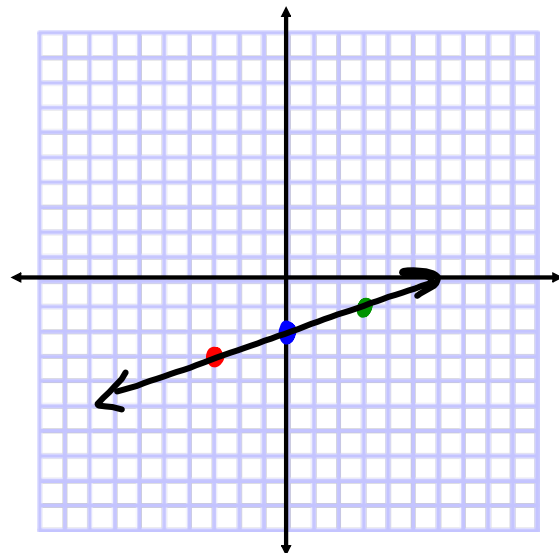
Equations in two Variables:

- the graph of a linear equation always results in the graph of a line having one or two intercepts

  - oblique line $y = mx + b$ (two intercepts)

  - horizontal line $y = \#$ (one intercept)
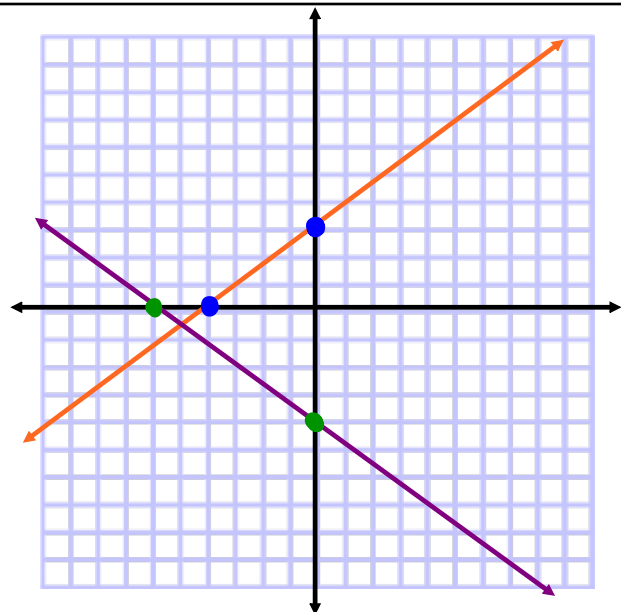
  - vertical line $x = \#$ (one intercept)

Intercepts of a Line:

$I_x : (-4, 0)$
$I_y : (0, 3)$

$I_x : (-6, 0)$
$I_y : (0, -4)$

Graphing using Intercept Method:

- the standard form of a linear equation is

$$Ax + By = C$$

- the x-intercept of a line is the point where the line crosses the x-axis

$$I_x : (x, 0)$$

- the y-intercept of a line is the point where the line crosses the y-axis

$$I_y : (0, y)$$

Graphing using Intercept Method:

- find the x-intercept

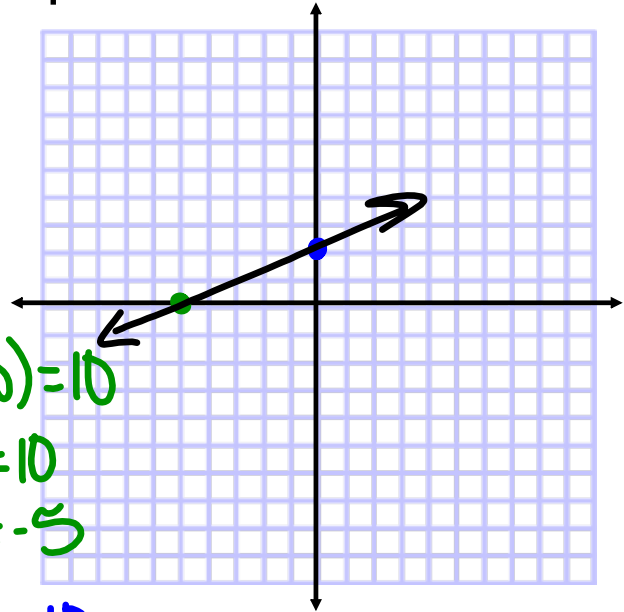- find the y-intercept

- plot the two ordered pairs

Graph using the intercept method.

$$-2x + 5y = 10$$

* do <u>not</u> get into
y=mx+b *

$I_x: (-5, 0)$ −2x+5(0)=10
                −2x=10
                 x=-5

$I_y: (0, 2)$ -2(0)+5y=10
               5y=10
                y=2

Graph using the intercept method.

$$y - 4 = \frac{1}{2}(x - 6)$$

−4=½(x-6)

$I_x: (-2, 0)$ -4=½x-3

$I_y: (0, 1)$ ^{2} [-1=½x]

−2 = x

y−4=½(-6)
y−4=-3
y=1
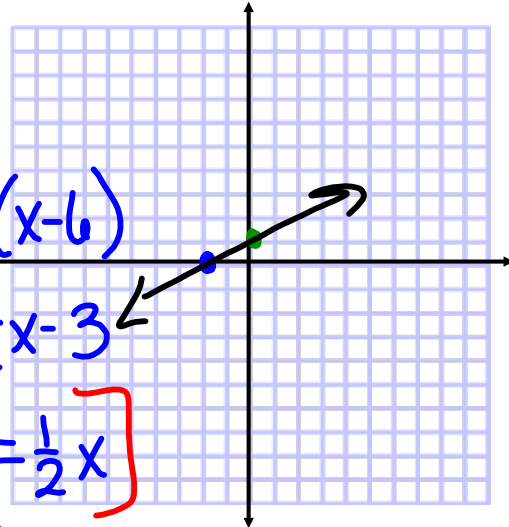
Assignment:

Intercept Method

#1-12