

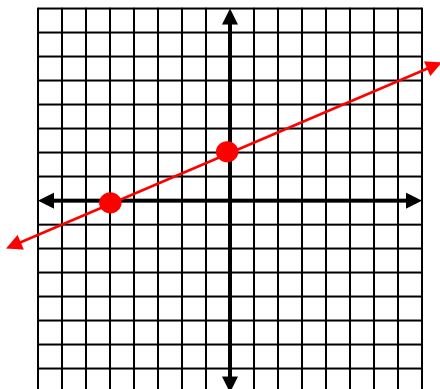
**GRAPHING WITH INTERCEPTS:** Find both the x & y-intercept by plugging in zero just like you did in the previous section. Put a dot on each axis for each intercept. Connect the dots!

1)  $2x - 5y = -10$

$$\begin{array}{l} 2x - 5(0) = -10 \quad \& \quad 2(0) - 5y = -10 \\ 2x - 0 = -10 \quad \quad 0 - 5y = -10 \\ 2x = -10 \quad \quad \quad -5y = -10 \\ x = -5 \quad \quad \quad \quad y = 2 \end{array}$$

x-int = -5

y-int = 2

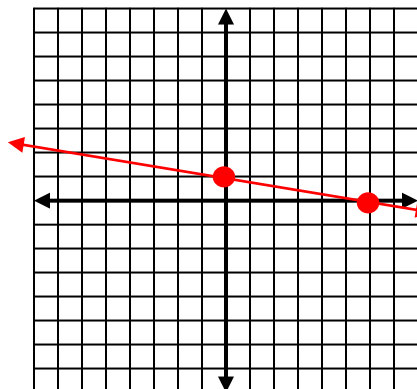


2)  $\frac{1}{2}x + 3y = 3$

$$\begin{array}{l} 1/2x + 3(0) = 3 \quad \& \quad 1/2(0) + 3y = 3 \\ 1/2x + 0 = 3 \quad \quad 0 + 3y = 3 \\ 1/2x = 3 \quad \quad \quad 3y = 3 \\ x = 6 \quad \quad \quad \quad y = 1 \end{array}$$

x-int = 6

y-int = 1

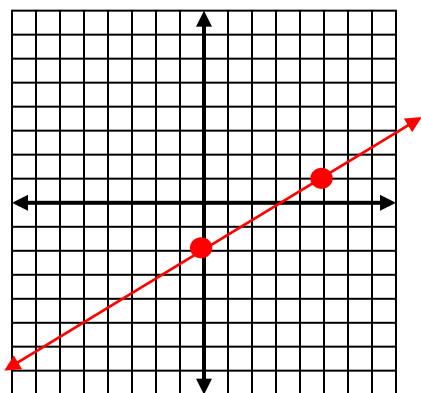


**GRAPHING WITH SLOPE-INTERCEPT FORM:** Make sure the equation is in the form;  $y = mx + b$ . Plot the first dot on the y-intercept, then count up/down then right/left (rise over run) to obtain the second dot. Connect and relax!

3)  $y = \frac{3}{5}x - 2$

m =  $\frac{3}{5}$

b = -2



4)  $3y + 2x = 15$

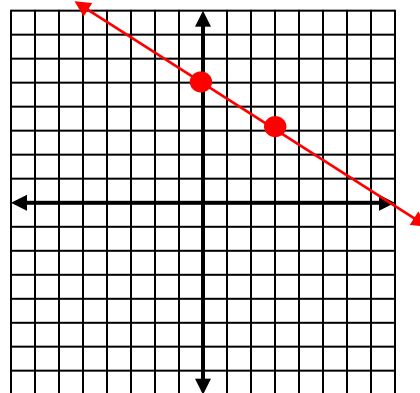
$3y = 15 - 2x$

$y = \frac{15}{3} - \frac{2x}{3}$

$y = 5 - \frac{2}{3}x$

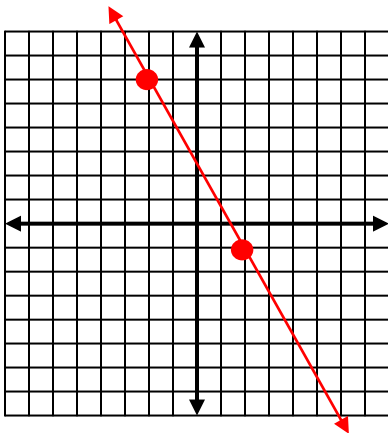
m =  $-\frac{2}{3}$

b = 5

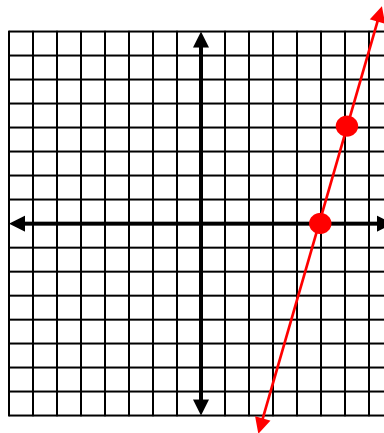


**GRAPH USING THE GIVEN INFORMATION:** Graph or find the point(s) given, then count or find the slope. Connect the dots and celebrate!

- 5) Passes through (-2, -6) and has slope of  $-\frac{7}{4}$



- 6) Passes through (5, 0) and has slope of 4



Which way does the line in #5 tilt? left Which way for #6? right

**TILT OF THE LINE:** An equation with negative slope will always tilt "left", and one with positive slope will tilt "right". PLEASE REMEMBER THIS YOUNG GRASSHOPPERS!

For the following problems, determine the y-intercept, slope and which way the line will tilt.

7)  $y = -9x - 11$

b = -11

m = -9

tilts? left

8)  $3x = 21 + 6y$

$$3x - 21 = 6y$$

$$y = \frac{1}{2}x - \frac{7}{2}$$

b =  $-\frac{7}{2}$

m =  $\frac{1}{2}$

tilts? right

9)  $\frac{1}{4}y = -1$

$$\text{mult. by 4}$$

$$y = -4 \text{ or } y = 0x - 4$$

b = -4

m = 0

tilts? horizontal