

5-1: Graphing Using Slope and Intercept

Objectives: I can graph a line from slope-intercept form

Vocab:

Slope m , $\frac{\text{change } y}{\text{change } x}$, (move)

y-intercept cross y axis, b (begin)

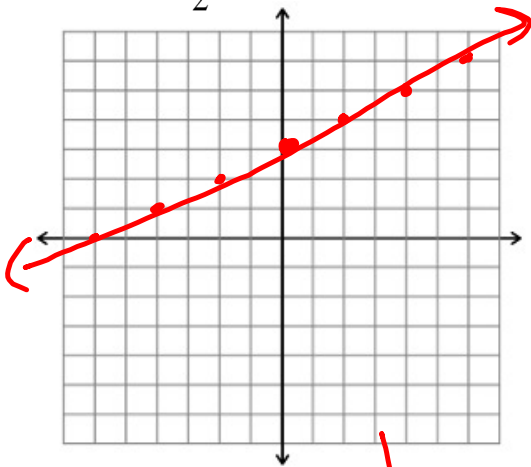
Label each part of the equation

$$y = mx + b$$

\uparrow Slope
 \nwarrow y-int

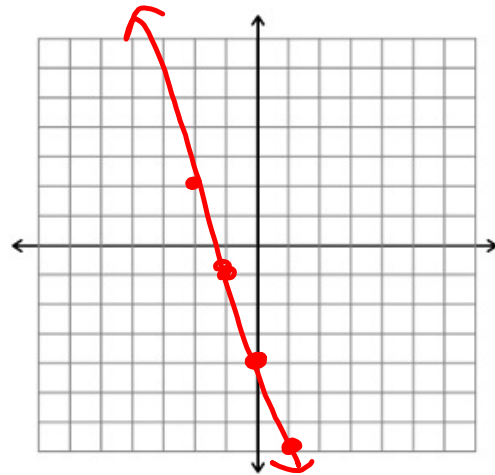
Notes Example:

Graph the equation of the line with a slope of $\frac{1}{2}$ and y-intercept of 3.



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

Graph the equation of the line when $m = -3$ and $b = -4$



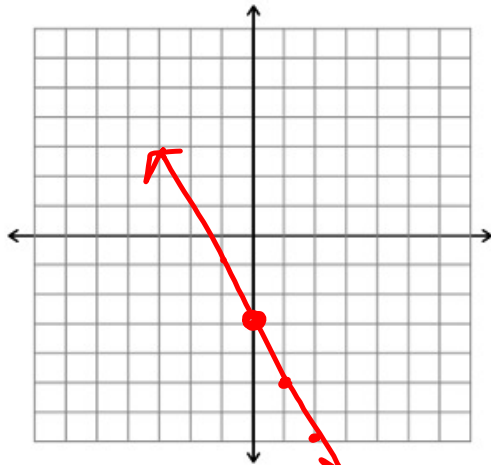
Equation: $y = -3x - 4$

Notes Example:

Graph the equation

$$y = -2x - 3$$

(hint: determine slope and y-int)

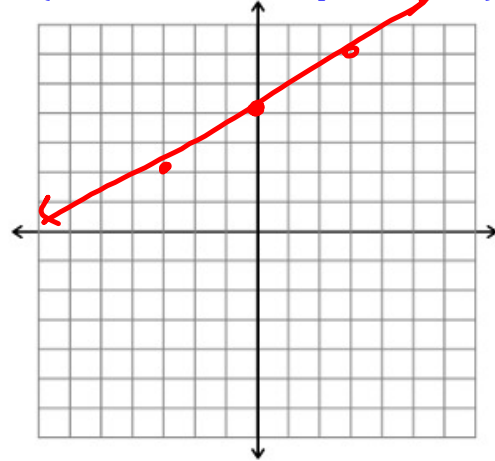


$$m = -\frac{2}{1}$$
$$b = -3$$

Graph the equation

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

(hint: determine slope and y-int)

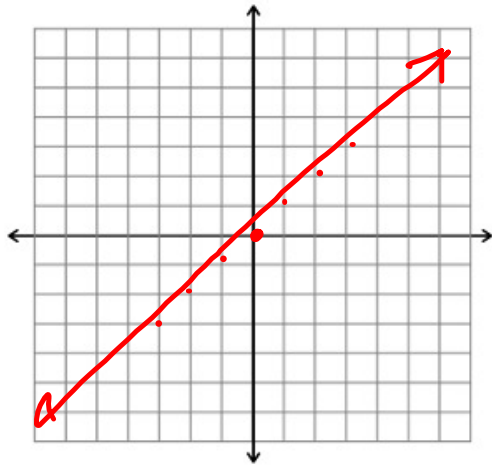


Notes Example:

Graph the equation

$$y = x + 0$$

(hint: determine slope and y-int)



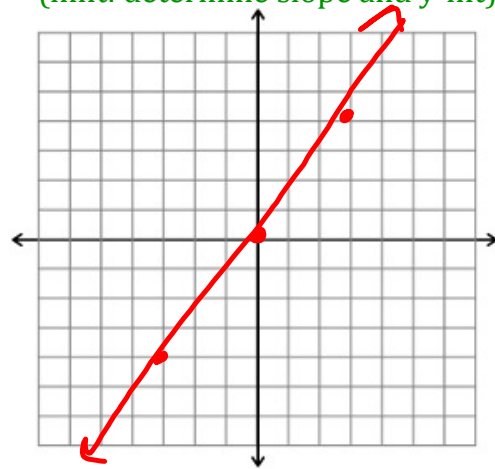
$$m = \frac{1}{1}$$

$$b = 0$$

Graph the equation

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

(hint: determine slope and y-int)



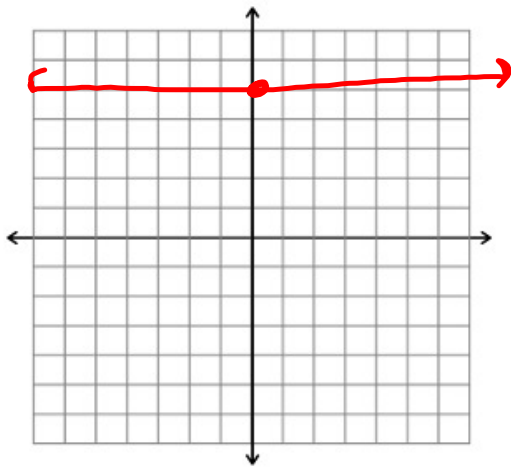
$$m = \frac{4}{3}$$

$$b = 0$$

Notes Example:

Graph the equation

$$y = 5 + 0x$$



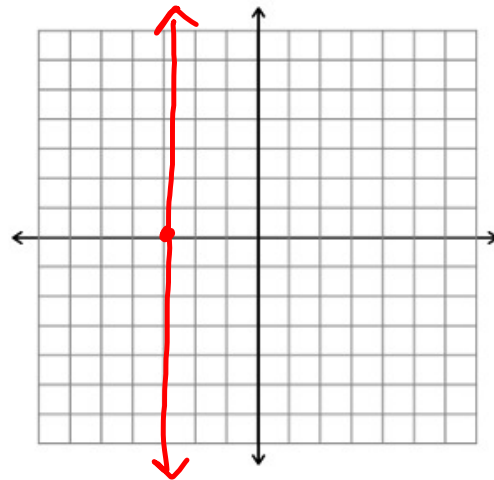
$$m = 0$$

$$b = 5$$

$$y = \# \text{ HORIZONTAL}$$

Graph the equation

$$x = -3$$



$$x = \#$$

$$\text{VERTICAL}$$

Notes Example: (hint: put in slope-intercept form before graphing)

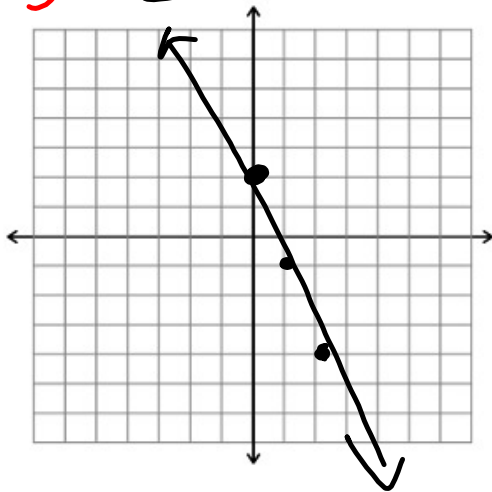
Graph the equation $3x + y = 2$

$$-3x \quad -3x$$

$$y = -3x + 2$$

$$m = -\frac{3}{1}$$

$$b = 2$$



Graph the equation $3x - 4y = 12$

$$-3x \quad -3x$$

$$-4y = -3x + 12$$

$$\frac{-4y}{-4} = \frac{-3x}{-4} + \frac{12}{-4}$$

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

