

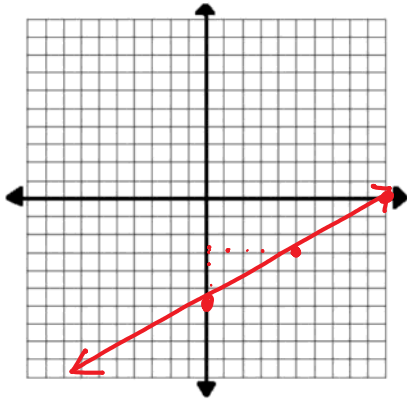
$$y = mx + b$$

← slope  
 ← y-intercept

Sketch the graph of each line

1.  $y = \frac{3}{5}x - 6$

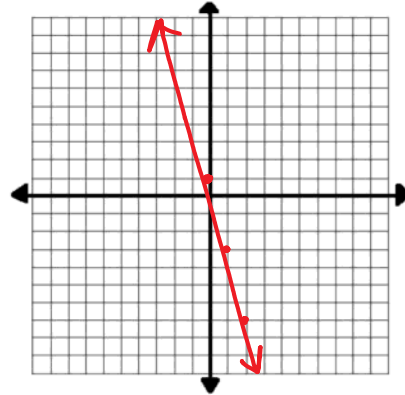
← Slope  
 ← y-int (0, -6)



Rise  
Run

2.  $y = -4x + 1$

← slope -4 = -4/1  
 ← y-int (0, 1)



$$3y - x = 12$$

+x    +x

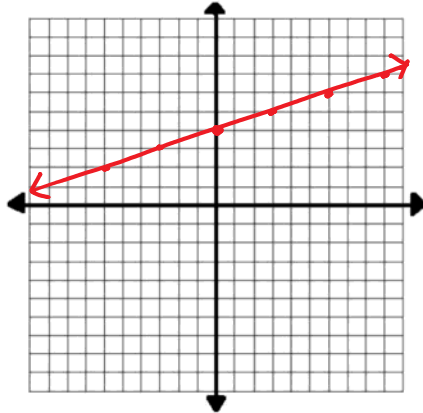
3.  $3y - x = 12$

$$3y = x + 12$$

÷3    ÷3

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

$$y = \frac{1}{3}x + 4$$



4.  $2x + 7y = -\frac{35}{2}$

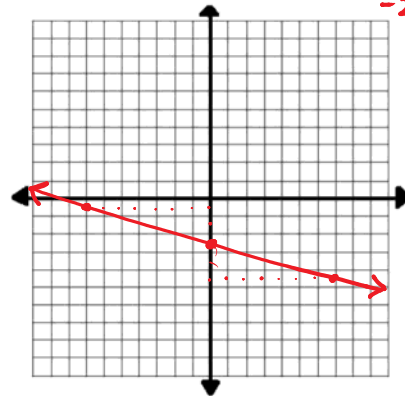
$$2x + 7y = -17.5$$

-2x    -2x

$$7y = -2x - 17.5$$

÷7    ÷7    ÷7

$$y = -\frac{2}{7}x - 2.5$$



perpendicular means

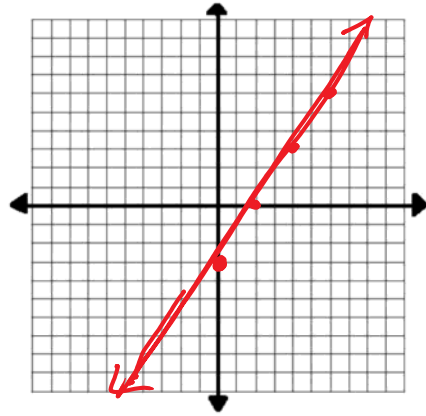
Slope is opposite reciprocal.

$$-\frac{2}{3} \rightarrow +\frac{3}{2}$$

5. a) Graph the linear function that goes through (4, 3) and is perpendicular to  $y = -\frac{2}{3}x - 11$

b) What is the equation of this line?

$$\begin{aligned} \text{slope: } & \frac{3}{2} \\ y &= mx + b \\ y &= \frac{3}{2}x + b \\ 3 &= \frac{3}{2}(4) + b \\ -3 &= b \end{aligned} \qquad y = \frac{3}{2}x - 3$$

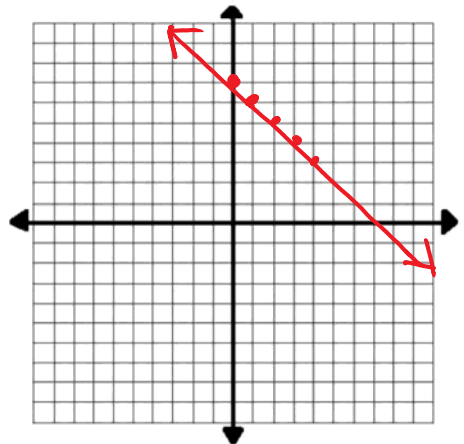


6. A company does custom paint jobs on cars and trucks. Due to the size of the workshop, and the time it takes for each job to daily output for the company is 7 vehicles in one day. Write a linear equation to model this information and sketch a graph.

Let  $x$  = # of trucks painted  
Let  $y$  = # of cars painted

$$\begin{aligned} x + y &= 7 \\ -x & \quad -x \\ \hline y &= -x + 7 \end{aligned}$$

$$\text{slope: } -\frac{1}{1} \quad y\text{-int: } 7$$



Assignment: Graphing Linear Functions Worksheet