



$$y = 4x - 9$$

$$y = 4x - 6$$

$$y = mx + b$$

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

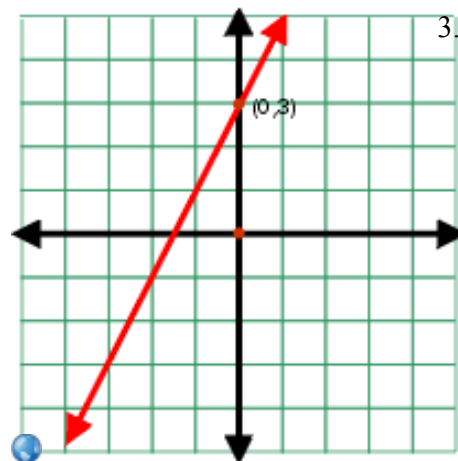
Which lines are  
parallel?  
perpendicular?

Slope

$$y = 6x - 6$$

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

$$y = mx + b$$



The equation is said to be in

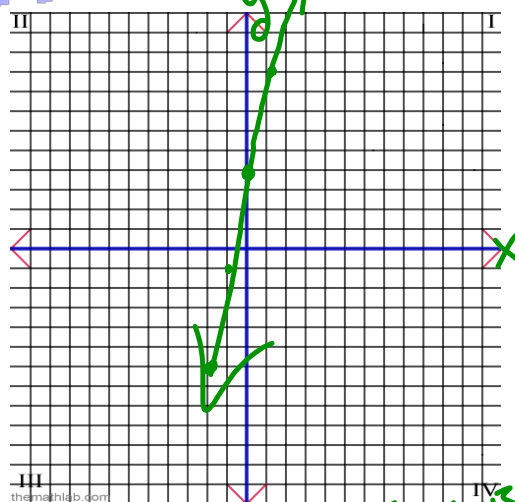
## Slope-Intercept Form

- $m$  = Slope
- $b$  =  $y$ -intercept



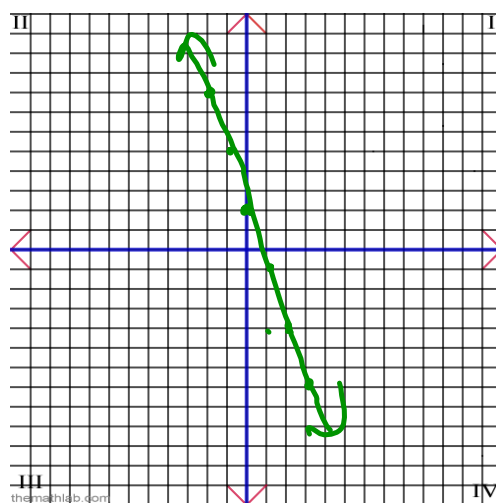
# Find the Slope and Y-intercept

$$y = 5x + 4$$



Slope(m): 5  $\frac{-5}{-1}$   $\frac{5}{1}$  rise  
y-intercept(b): 4 → start

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

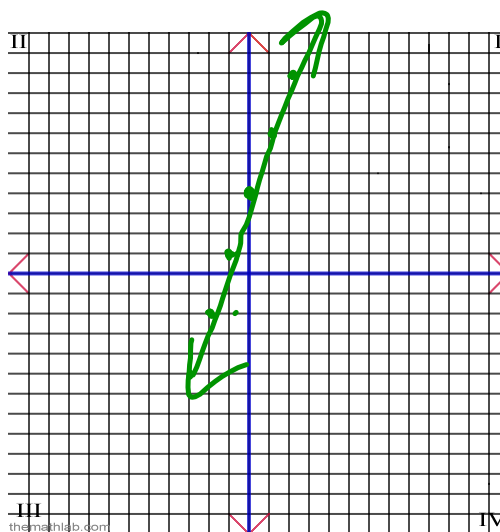


Slope(m):  $\frac{-3}{1}$   $\downarrow$   $\rightarrow$   $\frac{+3}{-1}$

y-intercept(b):  $\underline{2}$

Find the slope and y-intercept, then graph

$$\frac{2y}{2} = \frac{6x}{2} + \frac{8}{2}$$
$$y = 3x + 4$$



Slope(m):  $\frac{3}{1} \div \frac{-3}{-1}$

y-intercept(b):  $4$

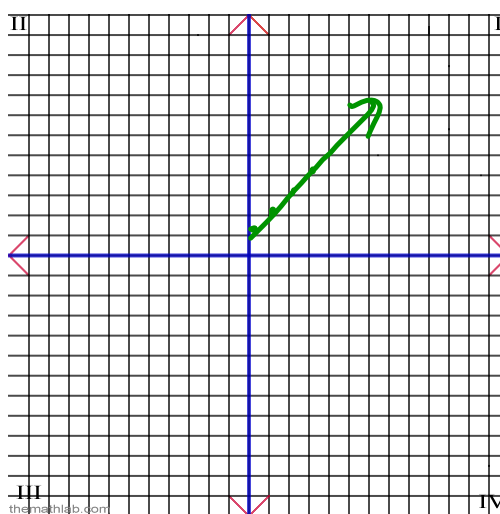
Find the slope and y-intercept, then graph.

$$3y - 2 = 3x + 2 + 2$$

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

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

$$y = 1x + 1.\bar{3}$$



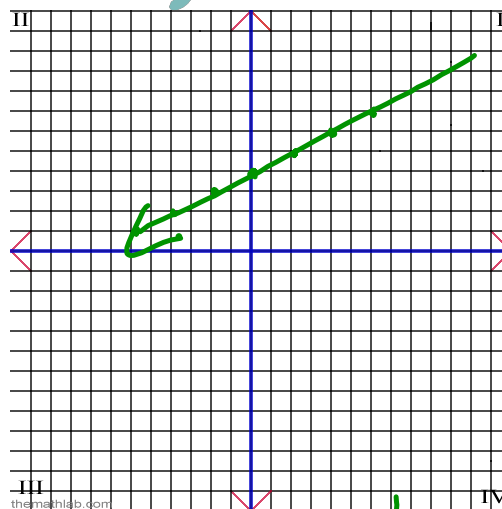
Slope(m):  $\frac{1}{1}$

y-intercept(b):  $1.\bar{3}$

Graph the following equation.

$$y + 3 = \frac{1}{2}x + 7 - 3$$

$$y = \frac{1}{2}x + 4$$



- b) State the ~~parallel~~ <sup>same slope.</sup> slope of the equation.

$$\frac{1}{2}$$

Slope(m):  $\frac{1}{2} = \frac{1}{2}$

y-intercept(b): 4

State the perpendicular  
slope of the equation

$$2(y - 4) = 4x - 8$$

$$2y(-8) = 4x - 8 + 8$$

$$2y = \frac{4x}{2} + \frac{0}{2}$$

$$y = 2x + 0$$

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



State the perpendicular  
slope of the equation

$$3(y - 2) = 5x - 8$$

State the slope and y-int, then graph.

$$3 - 5x = 3y - 6$$

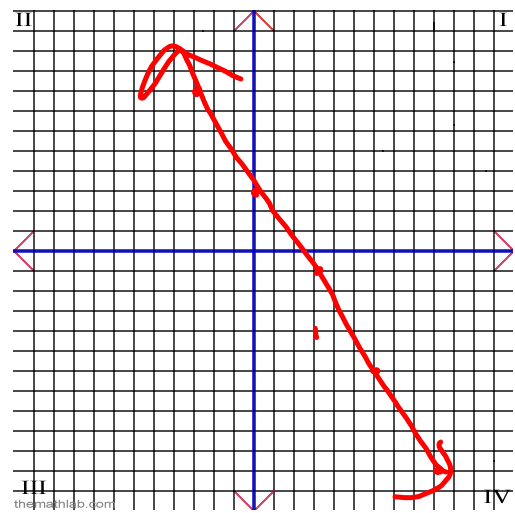
$$3y(-6) = 3 - 5x + 6$$

$$\frac{3y}{3} = \frac{-5x}{3} + \frac{9}{3}$$

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

b) State the perpendicular slope of the equation.

$$-\frac{5}{3} = +\frac{3}{5}$$



Slope(m):  $-\frac{5}{3}$

y-intercept(b): 3

State the slope and y-int

$$\underline{4}y + 1 = 3x + 5$$

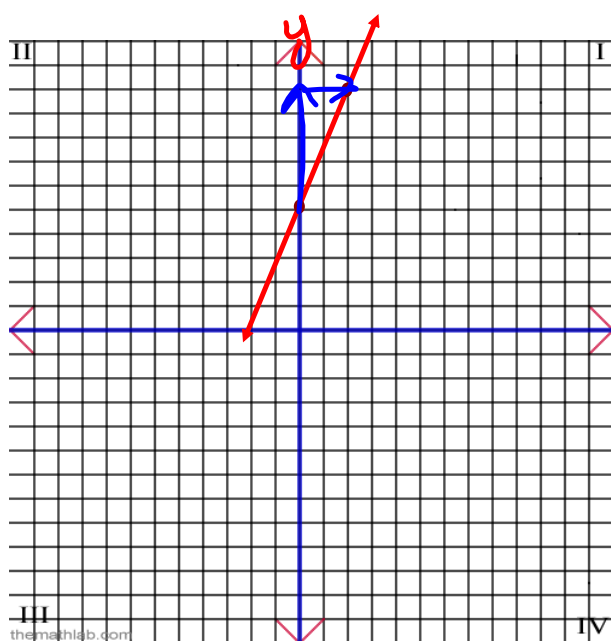
~~3~~

$$4y + 3 = 9x + 15 - 3$$

$$\frac{4y}{4} = \frac{9x}{4} + \frac{12}{4}$$

$$y = \frac{9}{4}x + 3$$

$$m = \frac{9}{4} \quad b = 3$$

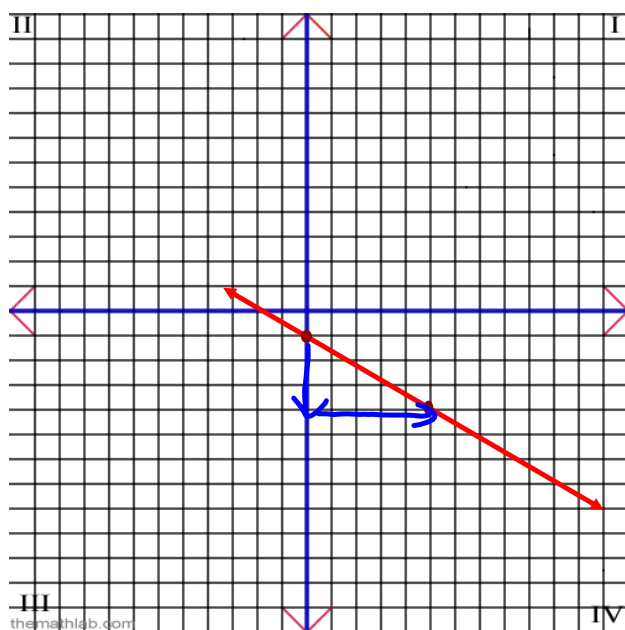


(m) Slope :  $\frac{5}{2}$

(b) y-int : 5

Equation:  $y = (m)x + (b)$

$$y = \frac{5}{2}x + 5$$

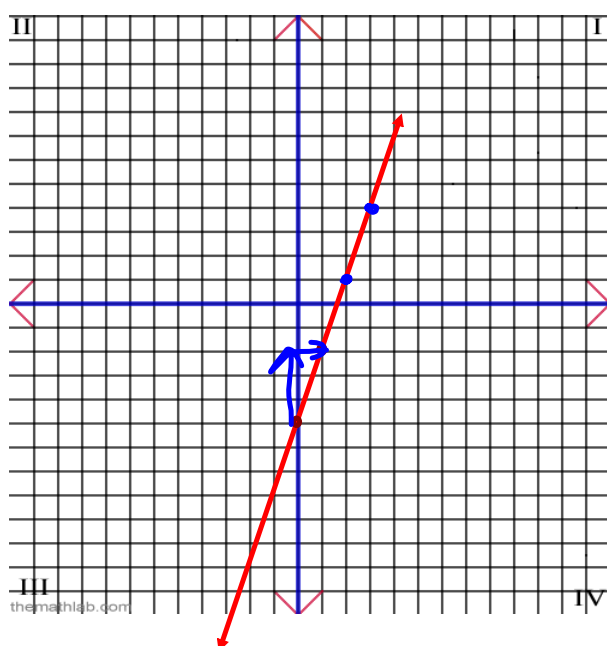


$m$  Slope :  $\frac{-3}{5}$

$b$  y-int :  $-1$

Equation:  $y = (m)x + b$

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



Slope :  $\frac{3}{1}$

y-int :  $-5$

Equation:  $y = \frac{3}{1}x - 5$   
 $y = 3x - 5$

