$y = mx + b$ m = slope

① $y = 4x - 9$ $m = 4$

② $y = 4x - 6$ $m = 4$

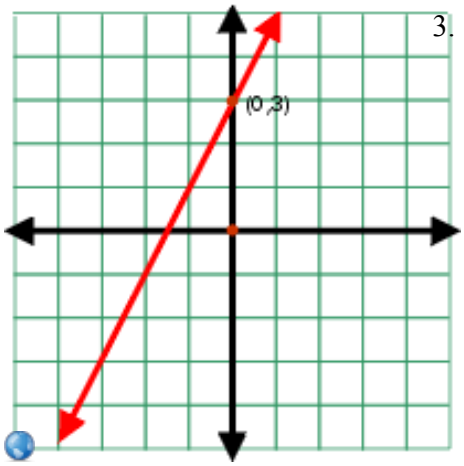
Which lines are parallel?
perpendicular?
Where is the slope??

③ $y = -\frac{1}{4}x - 6$ $m = -\frac{1}{4}$

④ $y = 6x - 6$ $m = 6$

⑤ $y = \frac{1}{4}x - 6$ $m = \frac{1}{4}$

$y = mx + b$



The equation is said to be in

* Slope-Intercept Form

- m = Slope
- b = y-intercept

$y = mx + b$

Find the Slope and Y-intercept

$y = mx + b$

1) $y = 5x + 4$

Slope(m): 5

y-intercept(b): 4

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

$y = 3x + 4$

Slope(m): 3

y-intercept(b): 4

3) a) $y + 3 = 1/2x + 7$ -3

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

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

y-intercept(b): 4

b) State the ~~parallel~~ slope of the equation.

(same slope) $m\| = \frac{1}{2}$

4) State the perpendicular slope of the equation (opposite reciprocals)

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

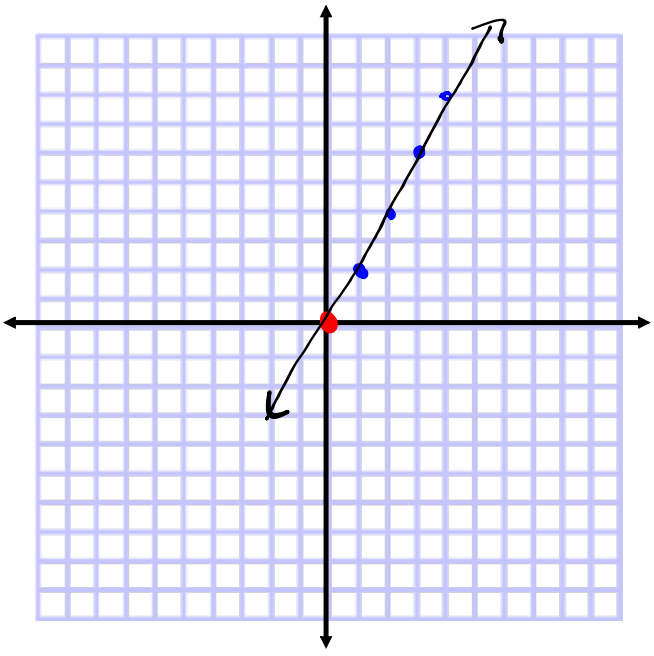
$2y - 8 = 4x - 8 + 8$

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

$y = 2x$

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

$b = 0$



To graph:

① Plot b-value (y-int)

$b = 0$

② Use slope ($m = \frac{rise}{run}$) to find other points

$m = \frac{2}{1}$ $(\frac{rise}{run})$

③ Connect the points

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

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

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

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

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

y-intercept(b): 3

b) State the perpendicular slope of the equation.

(opposite reciprocals)

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

6) State the parallel slope of the equation

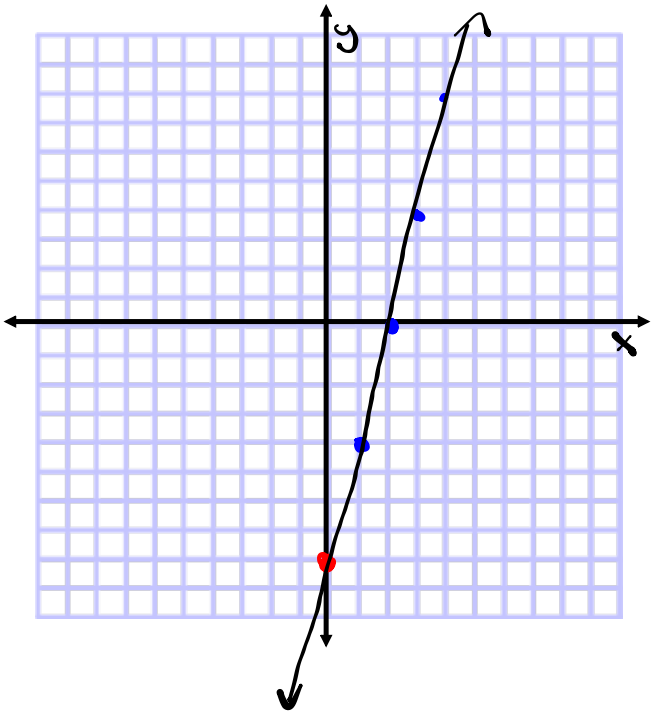
$m\parallel = 4$

$$\frac{3}{4}y = 3x - 6$$

4. 4.

$\frac{3y}{3} = \frac{12x}{3} - \frac{24}{3}$

$y = 4x - 8$ $m = 4$ $b = -8$



To graph:

① Plot b-value (y-int)

$b = -8$

② Use slope ($m = \frac{rise}{run}$) to find other points

$m = \frac{4}{1}$ $\left(\frac{rise}{run}\right)$

③ Connect the points