

Slope- Intercept Form

$$y = mx + b$$

↑ slope                      ↑ y-intercept

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1} = m$$

$$\text{slope} = \frac{\text{rise}}{\text{run}}$$

Point- Slope Form

$$y - y_1 = m(x - x_1)$$

$m = \text{slope}$   
 $(x_1, y_1)$

Standard Form

$$Ax + By = C$$

Graphed using  
the intercepts.

Graph  $3x - 4y = 12$

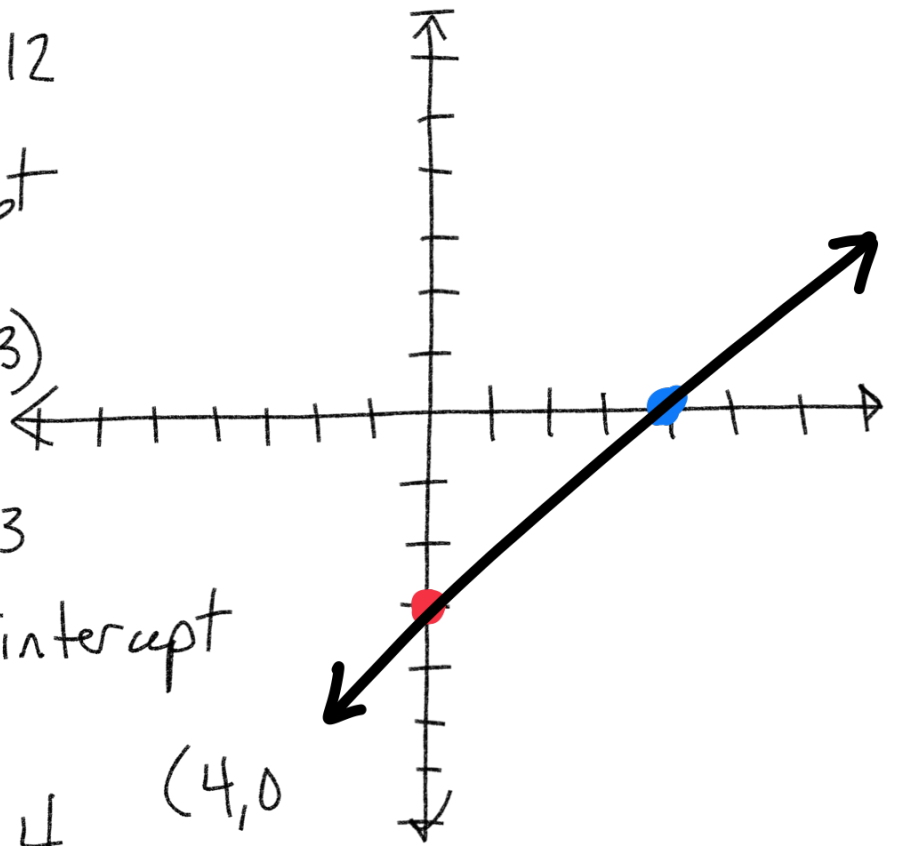
$x=0$  y-intercept

$$3x - 4y = 12 \quad (0, -3)$$

$$\frac{-4y}{-4} = \frac{12}{-4} \quad y = -3$$

$y=0$  x-intercept

$$3x - 4y = 12$$
$$\frac{3x}{3} = \frac{12}{3} \quad x = 4 \quad (4, 0)$$



$8x + 4y = 24$

$x=0$

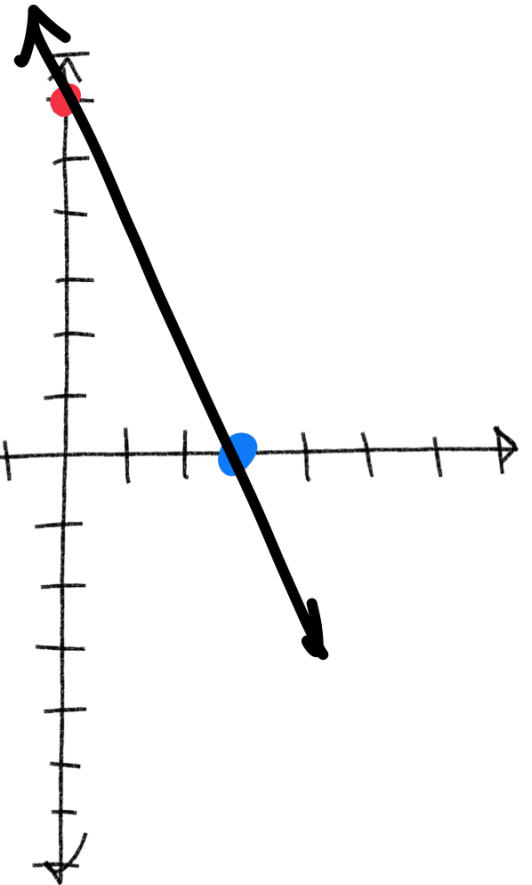
$$8x + 4y = 24$$

$$\frac{4y}{4} = \frac{24}{4} \quad (0, 6)$$

$y=0$   $y=6$

$$8x + 4y = 24 \quad (3, 0)$$

$$\frac{8x}{8} = \frac{24}{8} \quad x = 3$$



$$2x + 5y = -10$$

$$y = 0$$

$$2x + 5y = -10$$

$$\frac{2x}{2} = \frac{-10}{2}$$

$$x = -5 \quad (-5, 0)$$

$$2x + 5y = 10 \quad x = 0$$

$$\frac{5y}{5} = \frac{10}{5}$$

$$y = 2$$

$$(0, 2)$$

