

III.) Write an equation in slope-intercept form given two points.

example: $(3, 4)$ & $(5, 2)$
 x_1 y_1 x_2 y_2

$$1.) \quad m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2 - 4}{5 - 3} = \frac{-2}{2}$$

$$\boxed{m = -1}$$

2.) choose a point: $(5, 2)$
 x y

$$y = mx + b$$

$$2 = -1(5) + b$$

$$3.) \quad \begin{array}{r} 2 = -5 + b \\ +5 \quad +5 \\ \hline 7 = b \end{array}$$

$$\boxed{b = 7}$$

$$\boxed{y = -1x + 7}$$

steps:

1.) Find the slope using

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

2.) choose a point and plug in x and y and slope into $y = mx + b$

3.) solve for b .