Slope

- $\frac{\text{Rise}}{\text{Run}} = \frac{y_2 - y_1}{x_2 - x_1}$ OR Slope Δ's
- $y = \boxed{m}x + b$
  - Slope is m, OR The # in front of x.

Ex.

$(1, 1)$ & $(4, 13)$

$x_1\ y_1$ $x_2\ y_2$

$\frac{y_2 - y_1}{x_2 - x_1} = \frac{\text{Rise}}{\text{Run}}$

$\frac{13 - 1}{4 - 1} = \frac{12}{3} = \boxed{4}$

$y = 4x - 2$

Slope = 4

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

$(3, 5)$ & $(9, 5)$

$x_1\ y_1$ $x_2\ y_2$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{5 - 5}{9 - 3}$$

$$0 = \frac{0}{6}$$

Ex Find the Slope of

$(2, 4)$ & $(6, 12)$

x_1, y_1 x_2, y_2

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{12 - 4}{6 - 2} = \frac{8}{4} = 2$$

4 & 5

Ex $y = mx + b$

m = slope

① $y = 12x + 4$

Slope = 12

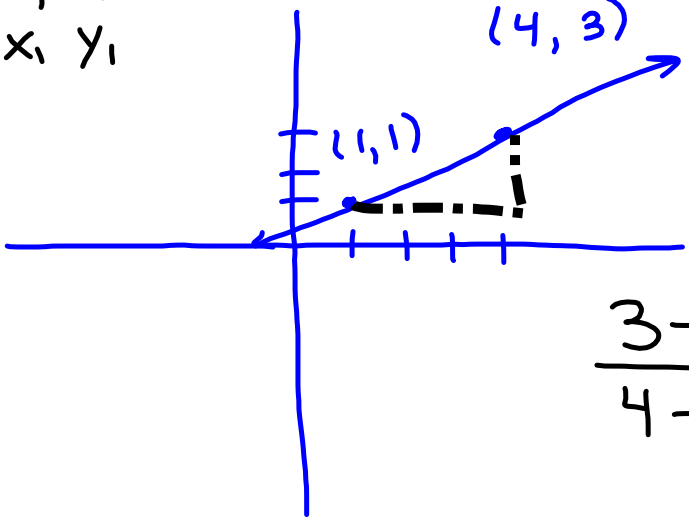
Finding Slope

① (3, 5) (9, 11)

x_1 y_1 x_2 y_2

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{11 - 5}{9 - 3} = \frac{6}{6} = 1$$

(1, 1)
x_1 y_1



(4, 3)
x_2 y_2

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

$$\frac{3 - 1}{4 - 1} = \frac{2}{3}$$

$y = mx + b$

slope = m

* Slope is always the # in front of x (r)

Finding Slopes

① (2, 4) & (5, 12)

x_1 y_1 x_2 y_2

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

$\frac{12 - 4}{}$