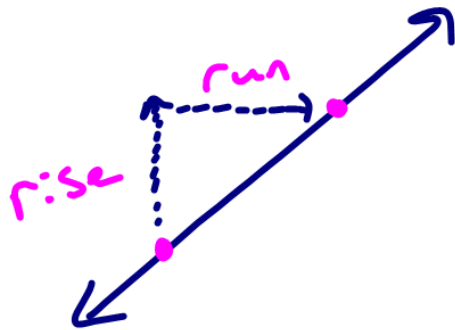


2.2 Rate of Change (Slope)

\$ per hour
 Miles per hour
 Referrals per day

} Compares
 } 2 things
 } to each other



Slope compares
 your rise & run

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

Find the Slope

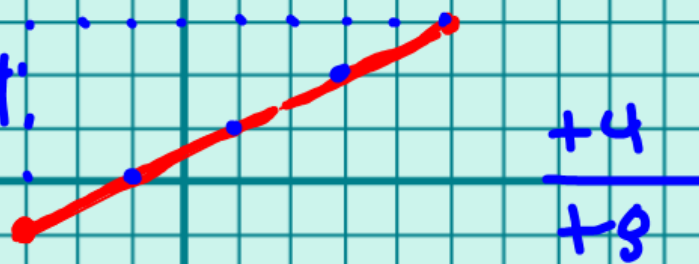
$$\text{Slope } (m) = \frac{3 - -1}{5 - -3}$$

$$= \frac{4}{8}$$

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

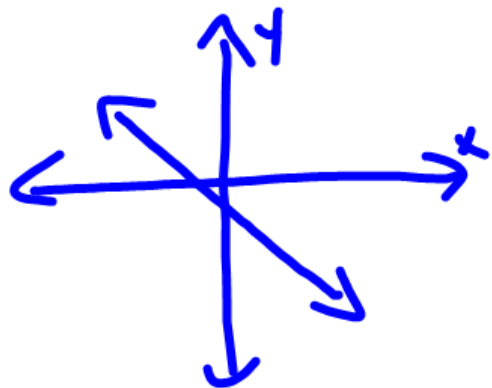
A (-3, -1)

B (5, 3)



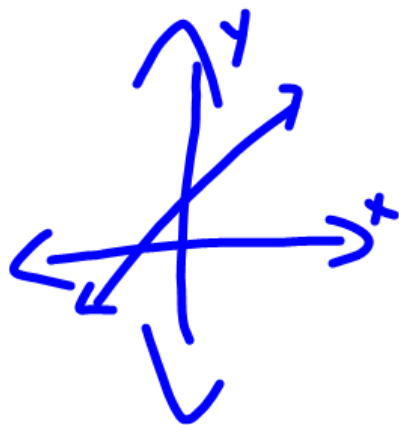
Y

Slope



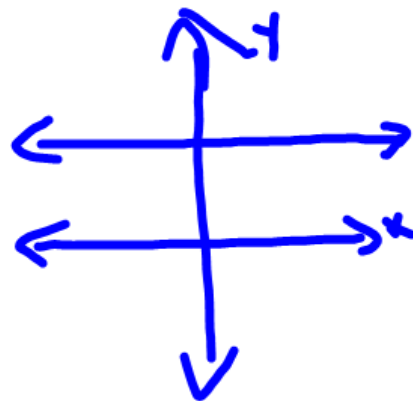
downhill

- Slope



uphill

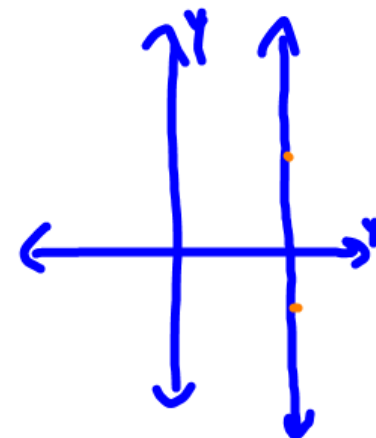
+ Slope



horizontal

0 slope

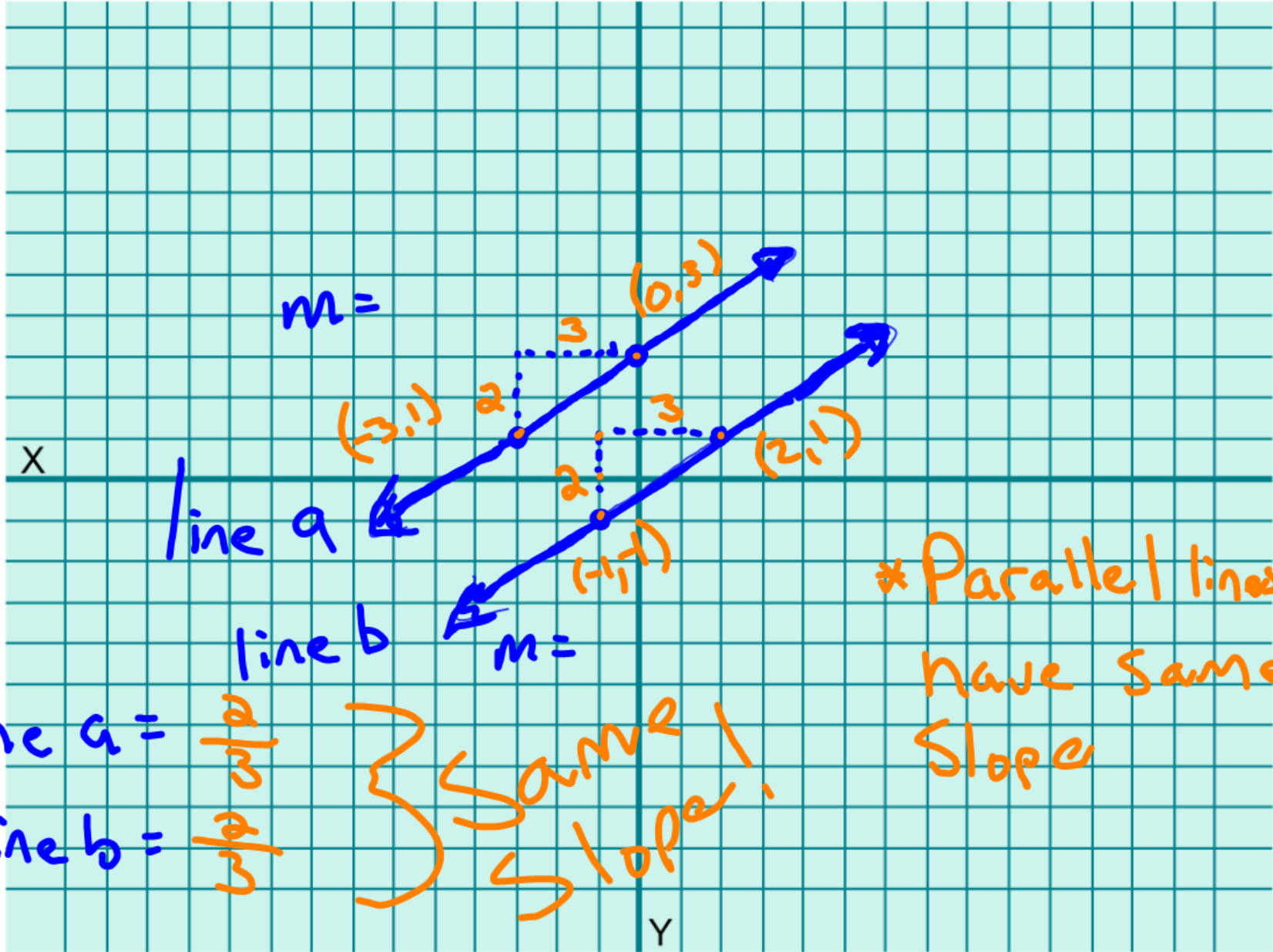
$$\frac{0}{\text{any } \#}$$



Vertical

Undefined
slope

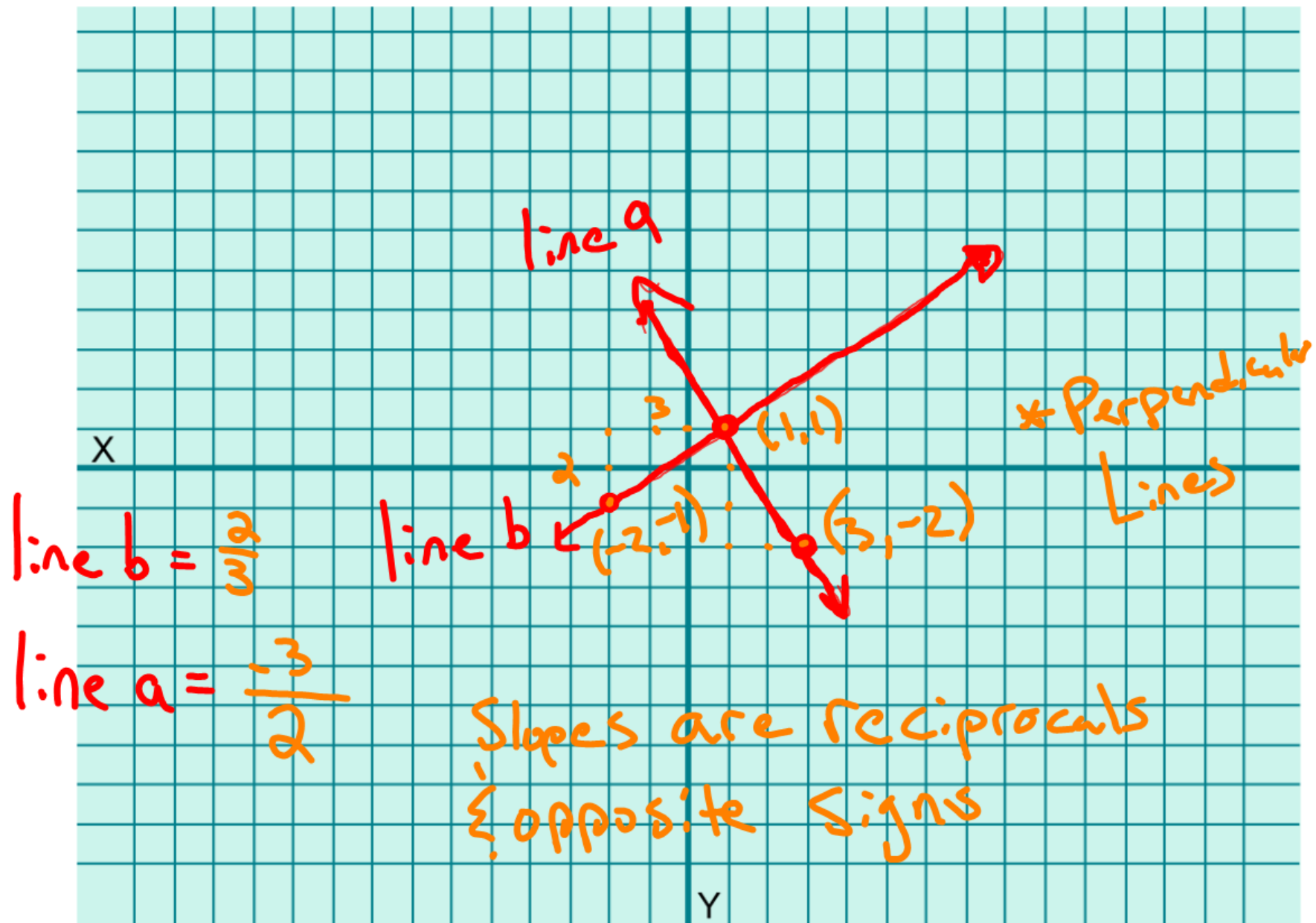
$$\frac{\text{any } \#}{0}$$



line a =
line b =

w/ same slope } Same Slope!

* Parallel lines have same slope



$$\begin{array}{l} \text{line a} \\ \text{line b} \end{array} \begin{array}{l} (-2, 2) \\ (-4, 1) \end{array} \begin{array}{l} \vdots \\ \vdots \end{array} \begin{array}{l} (0, -1) \\ (2, 3) \end{array} \left\{ \begin{array}{ll} (1, 2) & (4, -3) \\ (-4, 3) & (-1, -2) \end{array} \right.$$