

Welcome back!!

Let's review linear functions! 😊

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

Two forms of linear functions:

$y = mx + b$ SLOPE-INTERCEPT
 $y - y_1 = m(x - x_1)$ POINT-SLOPE

Parallel lines?

Same direction, never touch

Same slope

Perpendicular lines?

cross at 90° angle

Opposite reciprocal slopes

Lines in the Plane

Section 1.1

You will complete the note sheet on linear functions either independently or with a partner.

You can do this! You have seen this many times and will be review!

$$1) \quad a. \quad m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-3 - 5}{4 - 2} = \frac{-8}{2} = -4$$

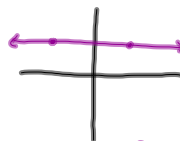
OR

$$\frac{5 + 3}{-2 - 4}$$

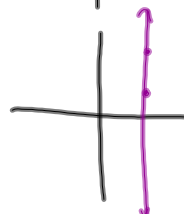
$$b. \quad m = \frac{3 + 1}{2 - 2} = \frac{4}{0} \text{ * undefined}$$

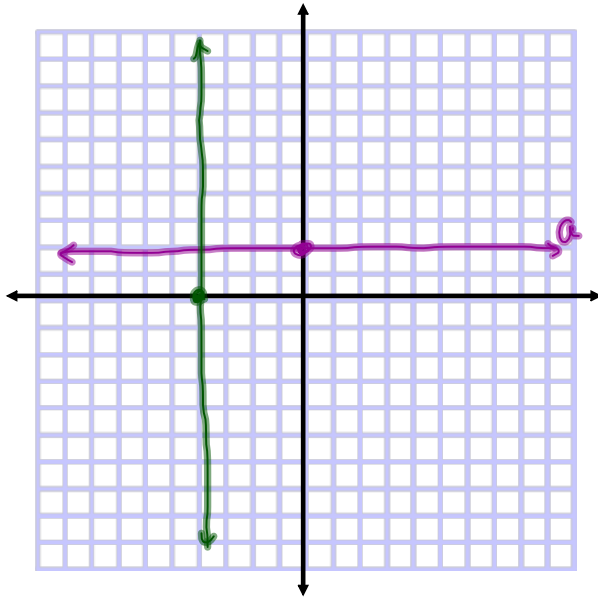
c. vertical → undefined
horizontal → $m = 0$

$$d. \quad m = \frac{0}{5}$$



$$m = \frac{-3}{0}$$

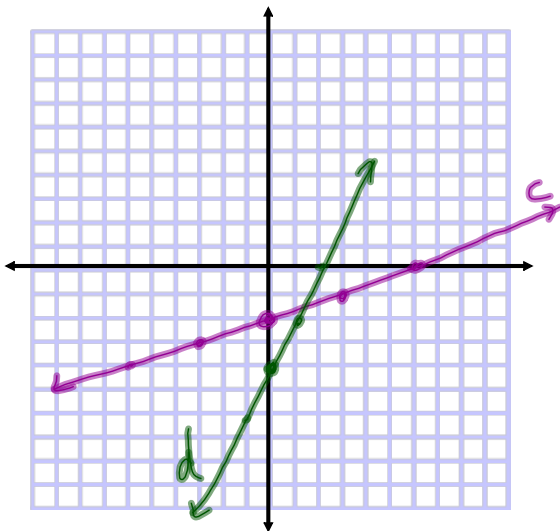




$$y = mx + b$$

$$\begin{aligned} \text{a) } y &= 2 \\ m &= 0 \\ b &= 2 \end{aligned}$$

$$\begin{aligned} \text{b) } x &= -4 \\ m &\text{ is undef} \\ &\text{ ~~} \end{aligned}~~$$



$$\begin{aligned} \text{c. } y &= \frac{1}{3}x - 2 \\ m &= \frac{1}{3} \\ b &= -2 \end{aligned}$$

$$\begin{aligned} \text{d. } \cancel{2}x - y &= 4 \\ -2x \quad -2x \\ -y &= -2x + 4 \\ y &= 2x - 4 \\ m &= \frac{2}{1} \\ b &= -4 \end{aligned}$$