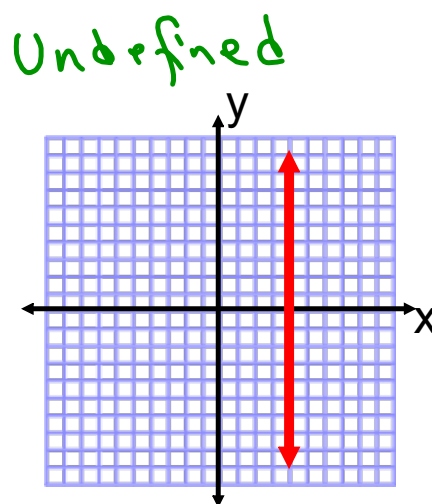
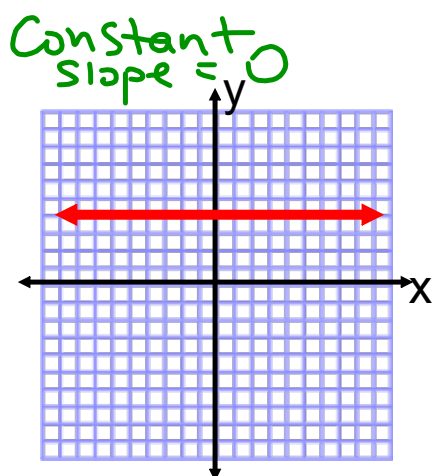
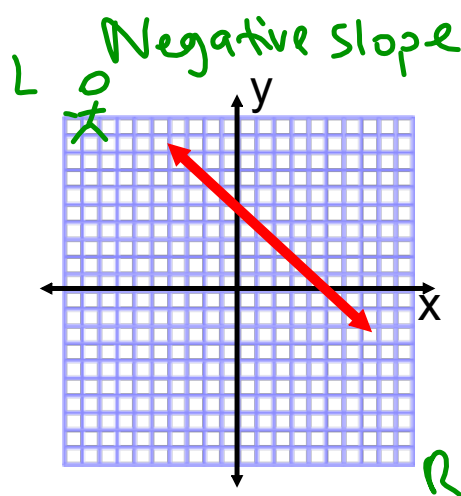
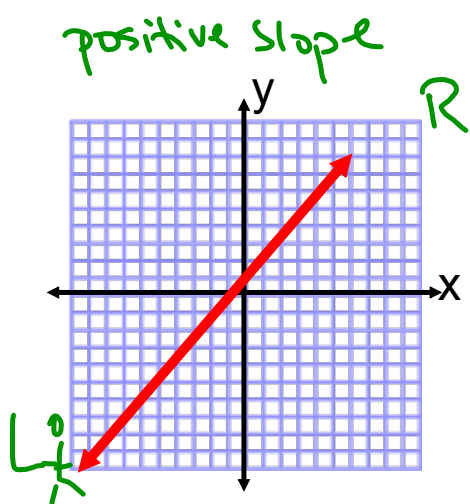


## Rate of Change or Slope

There are 4 different kinds of slope.



When given an equation such as  $y=ax+b$  slope is the coefficient to  $x$ . ALWAYS!

Example:

1)  $y = 4x + 6$

$$a = 4$$

2)  $y = -\frac{1}{3}x - 9$

$$a = -\frac{1}{3}$$

3)  $2x + y = 8$

$$y = -2x + 8$$

$$a = -2$$


4)  $4x + 2y = 16$

$$\frac{2y}{2} = \frac{-4x}{2} + \frac{16}{2}$$

$$y = -2x + 8$$

$$a = -2$$

## Slope Formula


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

Find the slope of the line passing through the two points:

$$A(5, 2) \text{ and } B(-1, 4)$$

- ① Label  $(x_1, y_1)$   
 $(x_2, y_2)$
- ② Plug & solve.

$$\begin{aligned} a &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{4 - 2}{-1 - 5} \\ &= \frac{2}{-6} \\ &= -\frac{1}{3} \end{aligned}$$