Warm Up:

Solve:

$$4x - 10 > 6 - 12x$$
$$+12x + 10 \quad +10 \quad +12x$$

$$16x > 16$$

$$x > 1$$

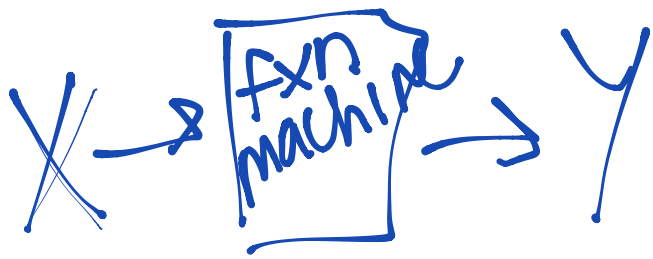
Function for every input there is one unique output

Domain it's the values you can plug into your function that result in an output (x-values)

Range it's the values you get as outputs of the function (y-values)

Input value we plug into the variable

Output: end product of plugging in an input (solving w/value for variable



Linear Equations

- forms line
- x, y variables
- $y = mx + b$ slope-intercept

slope: $\frac{y_2 - y_1}{x_2 - x_1}$ (x_1, y_1) (x_2, y_2)

y intercept (when $x = 0$)

pt. slope form

$$y - y_1 = m(x - x_1)$$

slope

point on our line

$(-1, 2)$ $(1, 6)$

x_1 y_1 x_2 y_2

slope-intercept form

1. find slope

$$\frac{6-2}{1+1} = \frac{4}{2} = 2 \rightarrow y = 2x + b$$

2. Find y intercept

↳ plug in a known point

$y = 2x + b$ $(1, 6)$

$6 = 2(1) + b$

$6 = 2 + b$

$-2 \quad -2$

$4 = b$

$\boxed{y = 2x + 4}$.

pt. slope form

$(-3, 2)$ $(0, -1)$

x_1 y_1 x_2 y_2

1. Find slope

$$\frac{-1-2}{0-\cancel{-3}} = \frac{-3}{3} = -1$$

2. create eqn $y - y_1 = m(x - x_1)$

$$y - 2 = -1(x + 3)$$

$$y-2=-1(x+3)$$

$$+2 \qquad\qquad +2$$

$$y=-1(x+3)+2$$

$$y=-1x-3+2$$

$$y=-1x-1$$