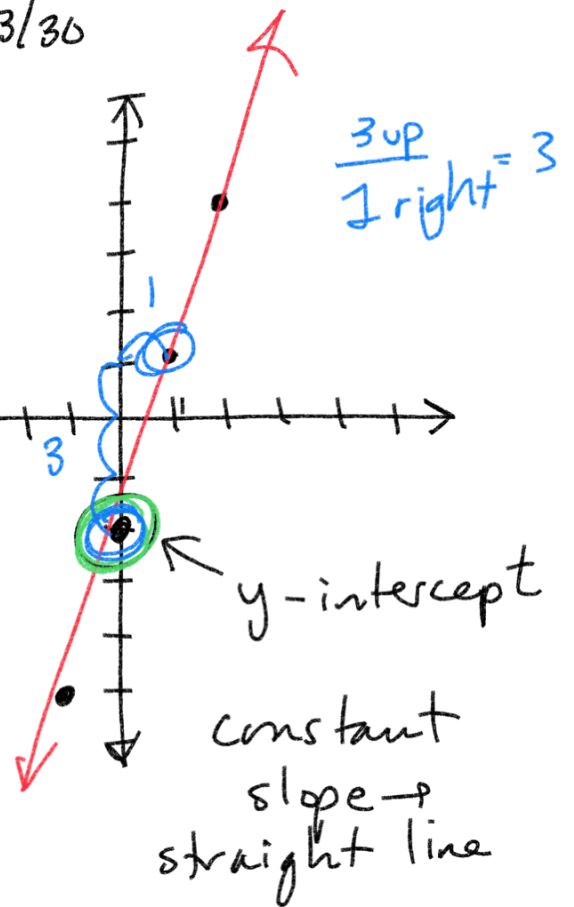


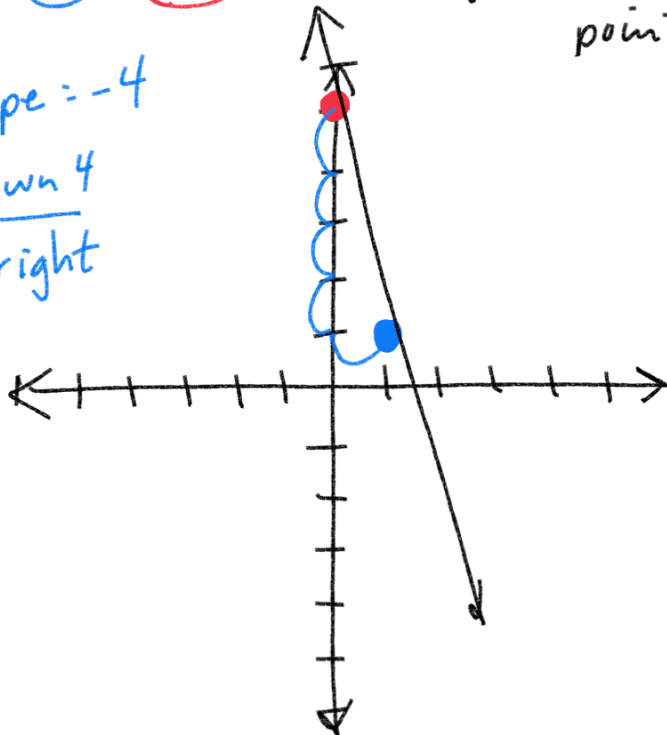
$y = 3x - 2$  ← y-intercept  
Linear Equation

x	3x - 2	y
-1	3(-1) - 2 -3 - 2	-5 (-1, -5)
0	3(0) - 2	-2 (0, -2)
1	3(1) - 2	1 (1, 1)
2	3(2) - 2 6 - 2 =	4 (2, 4)



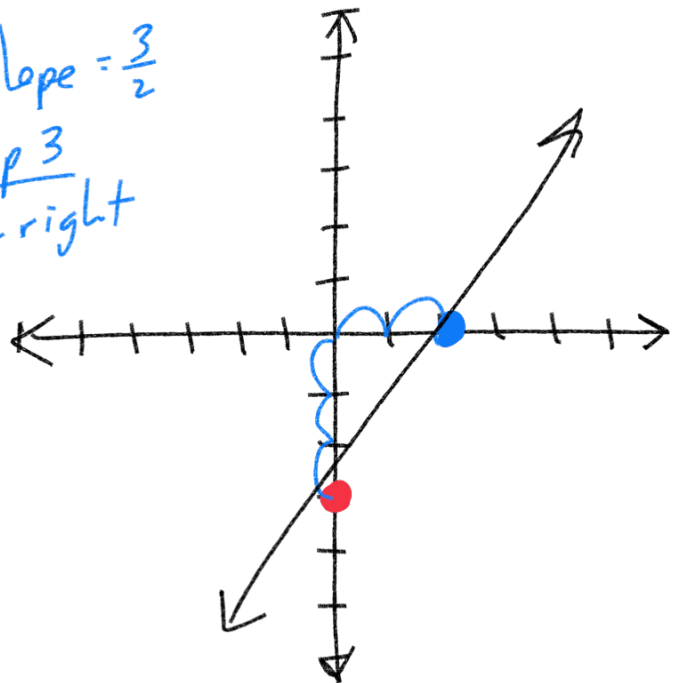
- 1.)  $y = -4x + 5$  ← y-int
- 1.) Plot y-int
  - 2.) Use slope to find 2nd point

slope = -4  
down 4  
1 right

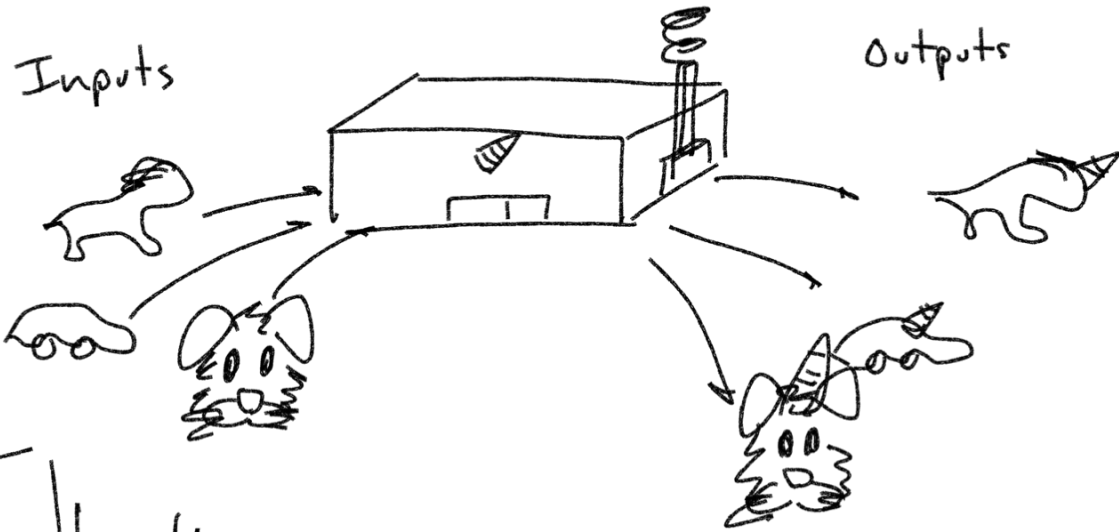


- 2.)  $y = \frac{3}{2}x - 3$  ← y-int

slope =  $\frac{3}{2}$   
up 3  
2 right



# Function Tables → Function Rules



X	y
-3	5
-1	7
4	12

$x + 8 = y$

$x \rightarrow y$   
increases      decreases  
 $\oplus \quad \otimes$        $\ominus \quad \div$

$$f(x) = x + 8$$

$$y = x + 8$$

X	y
-4	12
-1	3
5	-15

$$x * -3 = y$$

$$-3x = y$$

$$f(x) = -3x$$

↑ "function with respect to x"

1.)

X	Y
-8	-11
-4	-7
3	0

function rule

$$x - 3 = y$$

$$f(x) = x - 3$$

2.)

X	Y
-24	8
-9	3
12	-4

$$x \div -3 = y$$

$$-\frac{x}{3} = y \quad f(x) = -\frac{x}{3}$$

Direct Variation

$$y = kx$$

$y \propto x$  proportional to

C = cost

d = donuts

$C \propto d$  "k"

$$C = \$1.73d$$

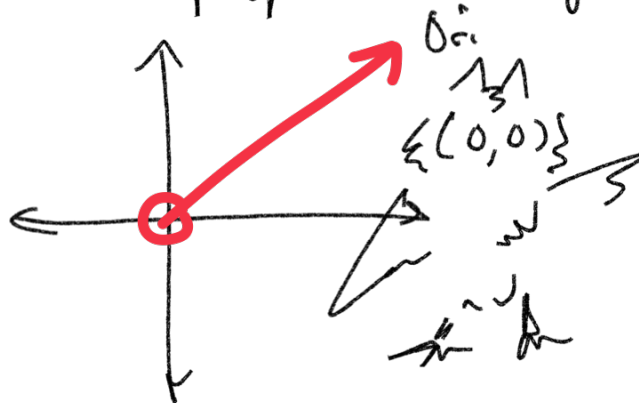
Directly Proportional  
Direct Variation

k = constant of proportionality

1.)  $y = kx$

2.) linear (straight line)

3.) Go through the origin





# Direct Variation

X	y	$k = \frac{y}{x}$
→ 4	8	$\frac{8}{4} = 2$
→ 7	14	$\frac{14}{7} = 2$
→ 10	20	$\frac{20}{10} = 2$

$k = 2$

$y = 2x$

$$y = kx$$
$$\frac{y}{x} = \frac{kx}{x}$$
$$k = \frac{y}{x}$$

X	y	$k = \frac{y}{x}$
-3	-2	$\frac{-2}{-3} = \frac{2}{3}$
3	2	$\frac{2}{3} = \frac{2}{3}$
9	6	$\frac{6 \div 3}{9 \div 3} = \frac{2}{3}$

$$y = kx$$
$$k = \frac{y}{x}$$
$$y = \frac{2}{3}x$$