

- When is it increasing?

a, d, h

- When decreasing?

c, e, g

- When constant?

b, f

- when home? (hours)

5-6, 8

$$30 + 0 + 10 + 30 + 50 + 20 + 20$$

- total distance traveled

160 mi

Which of the following is a function?

If a function, state the domain and range.

a) $(1, 2), (2, 4), (3, 6), (4, 8)$ function

Domain: $\{1, 2, 3, 4\}$

Range: $\{2, 4, 6, 8\}$

every input has one, and only one, output.

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

Domain: $\{0, 1, 2, 3\}$

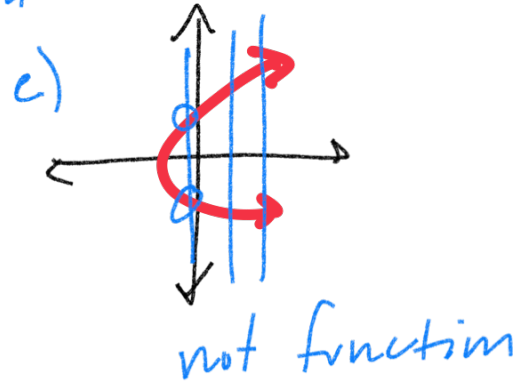
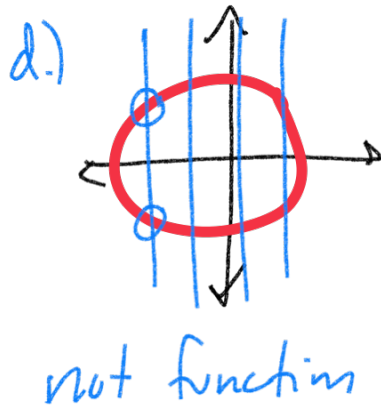
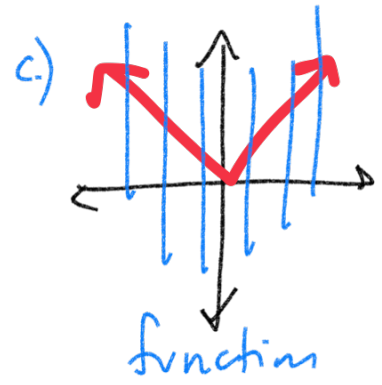
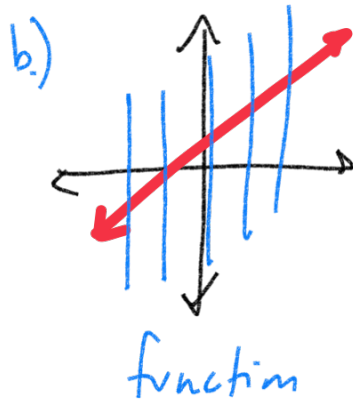
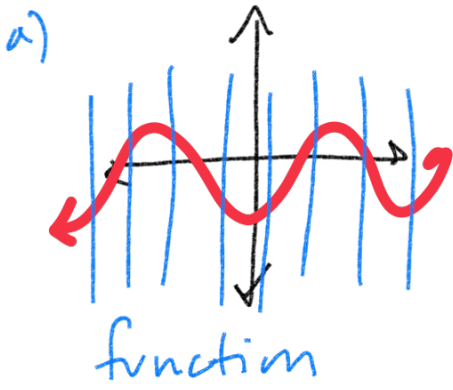
Range: $\{-3\}$

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

Domain: $\{-1, -2, 1, 2\}$

Range: $\{2, 6, -2, -6\}$

d) $(0, 4), (1, 3), (1, 5), (2, 8)$ not function



Salary Used Car Sales person
(in hundreds of dollars)

$$y = 2x + 3$$

x = # of cars sold

x = 5

$$y = 2x + 3$$

$$y = 2(5) + 3$$

$$= 10 + 3$$

$$= \boxed{13}$$

x = 8

$$y = 2(8) + 3$$

$$16 + 3$$

$$= \boxed{19}$$

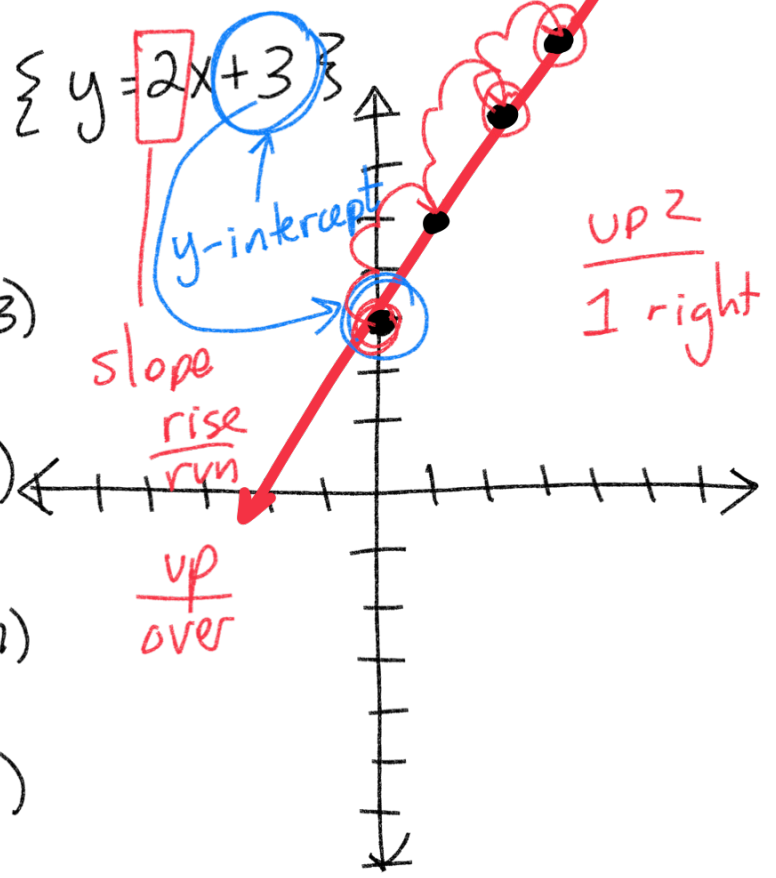
x = -3

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

$$-6 + 3$$

input x	↓ $2x + 3$	output y
0	$2(0) + 3 = 3$	3
1	$2(1) + 3$ $2 + 3 = 5$	5
2	$2(2) + 3$ $4 + 3 = 7$	7
3	$2(3) + 3$ $6 + 3 = 9$	9

input x	↓ $2x + 3$	output y
0	$2(0) + 3 = 3$	3 (0,3)
1	$2(1) + 3$ $2 + 3 = 5$	5 (1,5)
2	$2(2) + 3$ $4 + 3 = 7$	7 (2,7)
3	$2(3) + 3$ $6 + 3 = 9$	9 (3,9)



Linear Equation

$$y = mx + b$$

slope

y-intercept

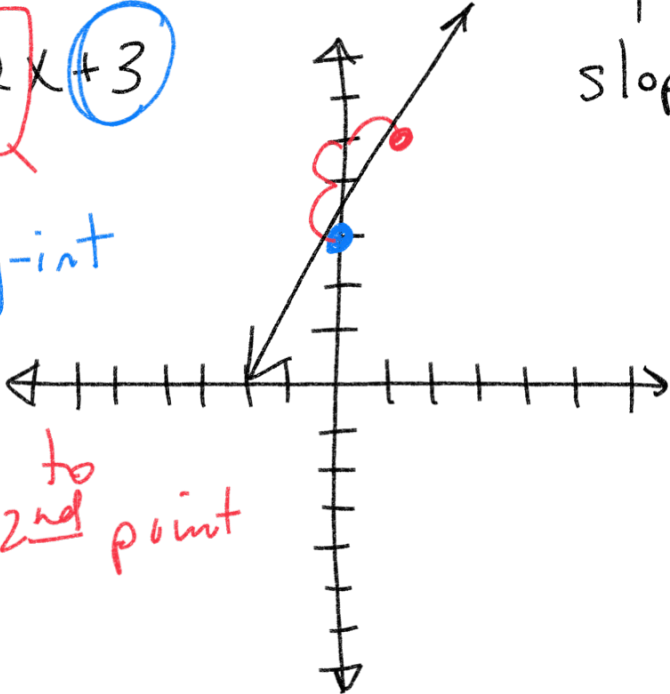
$$y = 2x + 3$$

1.) plot y-int

2.) Use slope to plot 2nd point

$$\text{slope} = \frac{\Delta y}{\Delta x} = \frac{\text{rise}}{\text{run}} = \frac{\text{up}}{\text{right}}$$

$$\text{slope} = 2 = \frac{2}{1} \frac{\text{up } 2}{1 \text{ right}}$$

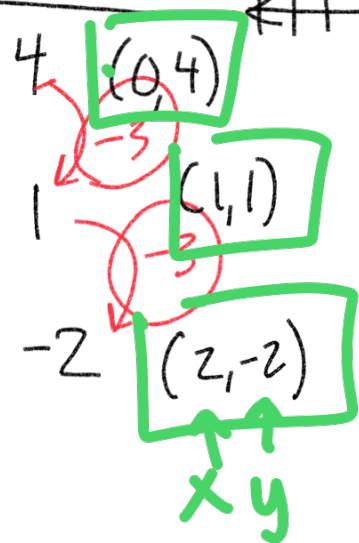


slope

$$y = -3x + 4$$

y-int

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



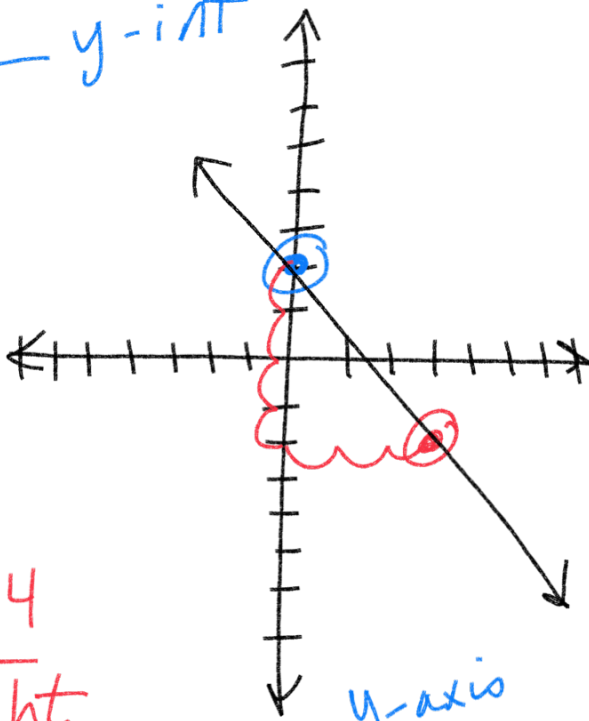
$$\text{slope} = \frac{-3}{1} = \frac{\text{down } 3}{1 \text{ right}}$$

$$y = \boxed{-\frac{4}{3}}x + \boxed{2} \quad \text{y-int}$$

1.) Plot y-int slope

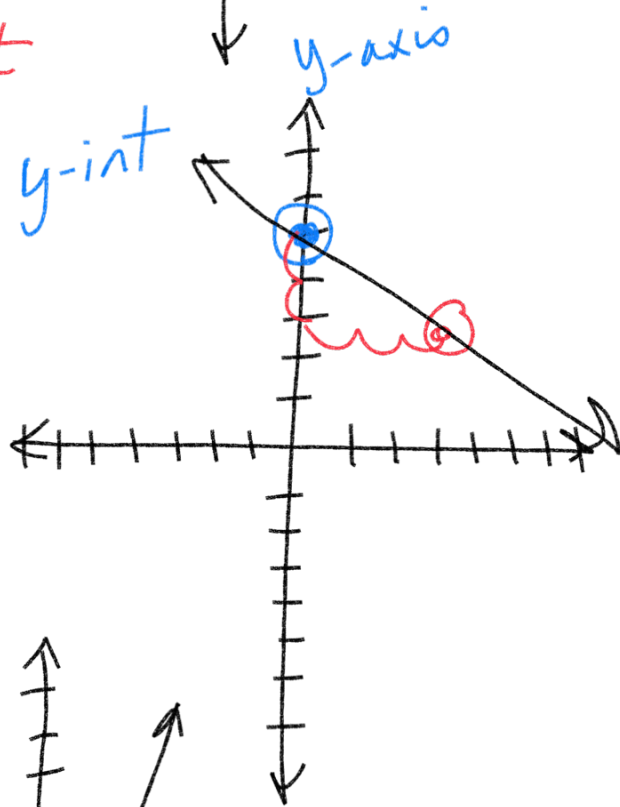
2.) Use slope to find 2nd point.

$$\text{slope } -\frac{4}{3} = \frac{\text{down } 4}{3 \text{ right}}$$



$$1.) \quad y = \boxed{-\frac{2}{3}}x + \boxed{5} \quad \text{y-int}$$

$$\text{slope} = -\frac{2}{3} = \frac{\text{down } 2}{3 \text{ right}}$$



$$y = \boxed{4}x + \boxed{-3} \quad \text{y-int}$$

slope

$$\frac{\text{rise}}{\text{run}} = \frac{\text{up}}{\text{over}} =$$

$$\frac{4}{1} = \frac{\text{up } 4}{1 \text{ right}}$$

