T-A1 Algebra 1 3/22

1.) Which of the following is a function?
If a function, state domain and range.

a) $(\boxed{1}, 2)$, $(\boxed{2}, 4)$, $(\boxed{3}, 6)$, $(\boxed{4}, -8)$ Each input has one, and only one, output.

function D: $\{1, 2, 3, 4\}$ R: $\{2, 4, 6, -8\}$

b) $(\boxed{0}, -3)$, $(\boxed{1}, -3)$, $(\boxed{2}, -3)$, $(\boxed{3}, -3)$

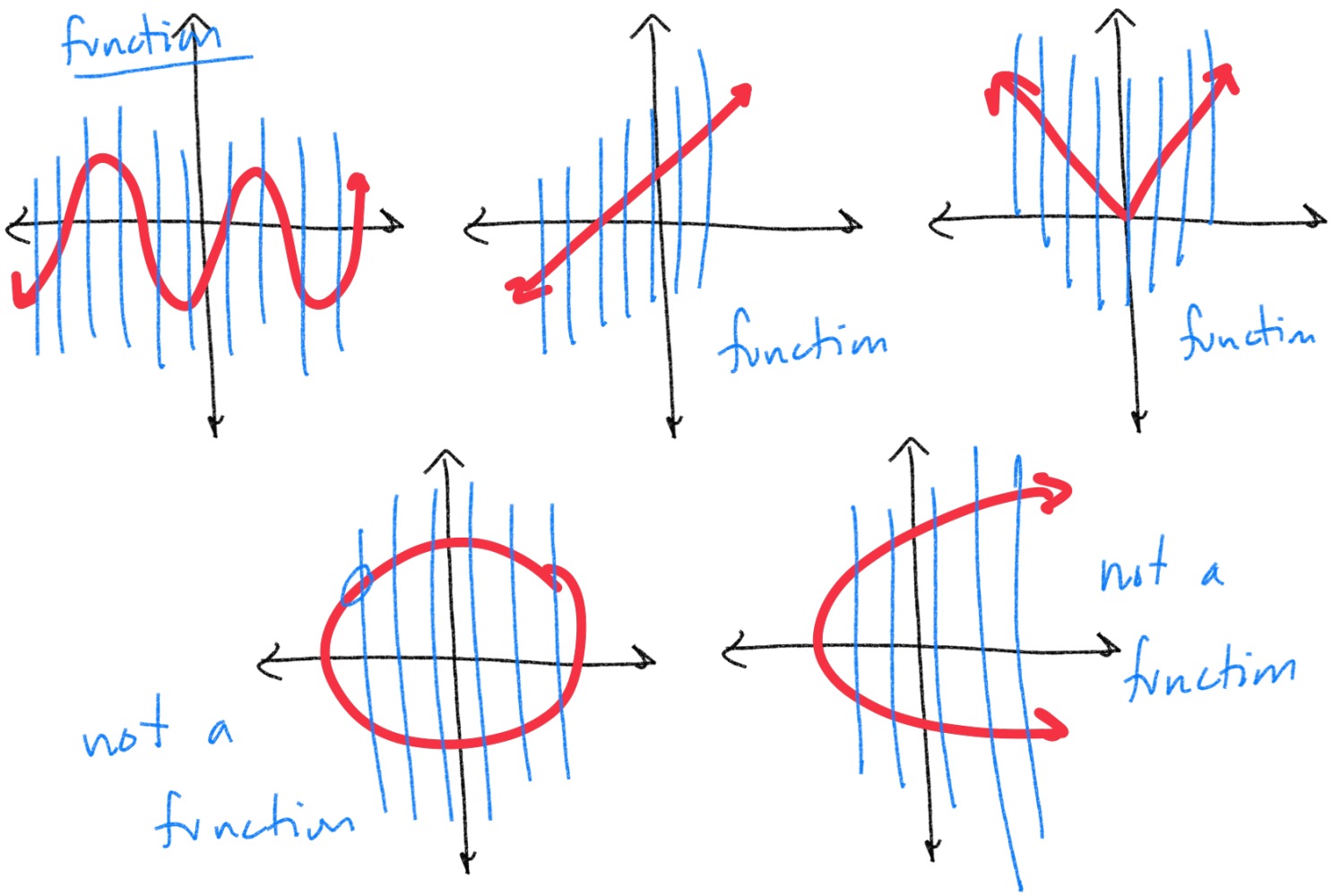
function D: $\{0, 1, 2, 3\}$ R: $\{-3\}$

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

function D: $\{-1, -2, 1, 2\}$ R: $\{2, 6, -2, -6\}$

d) $(0, 4)$, $(\boxed{1}, 3)$, $(\boxed{1}, 5)$, $(2, 8)$

not a function



Salary Used Car Salesperson
(in hundreds of dollars)

$[\, y = 2x + 3 \,]$

x = # of cars sold

$x = \boxed{5}$
input

$y = 2(5) + 3$
$10 + 3$
$y = 13$
output

$x = 8$

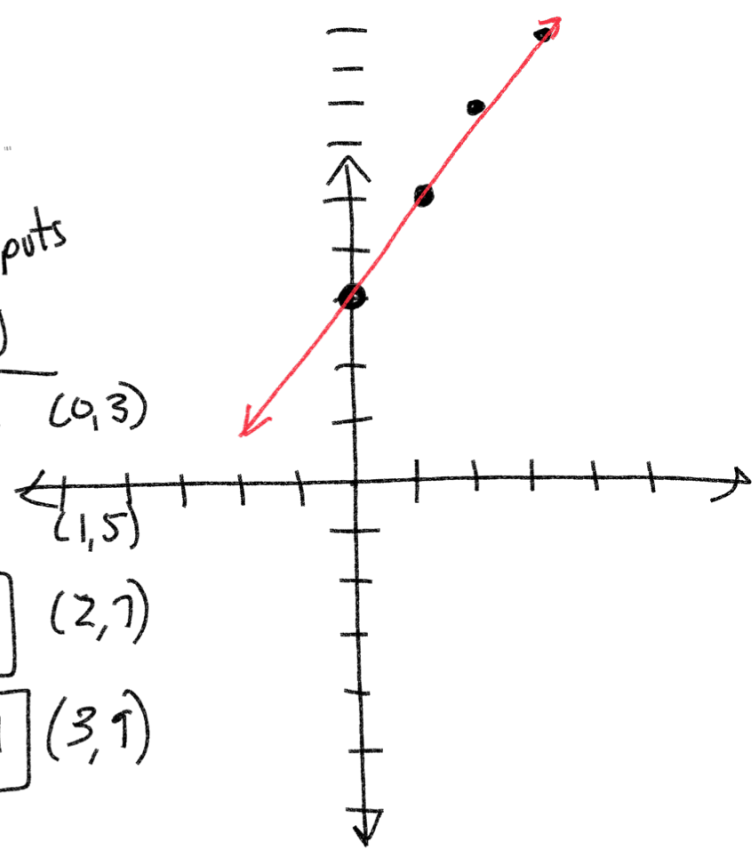
$y = 2(8) + 3$
$16 + 3$
$y = 19$

$x = -3$

$y = 2(-3) + 3$
$-6 + 3$
$y = -3$

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

input x	$2x + 3$	outputs y	
0	$2(0) + 3 = 0 + 3$	3	(0,3)
1	$2(1) + 3 = 2 + 3$	5	(1,5)
$\boxed{2}$	$2(2) + 3 = 4 + 3$	$\boxed{7}$	(2,7)
$\boxed{3}$	$2(3) + 3 = 6 + 3$	$\boxed{9}$	(3,9)



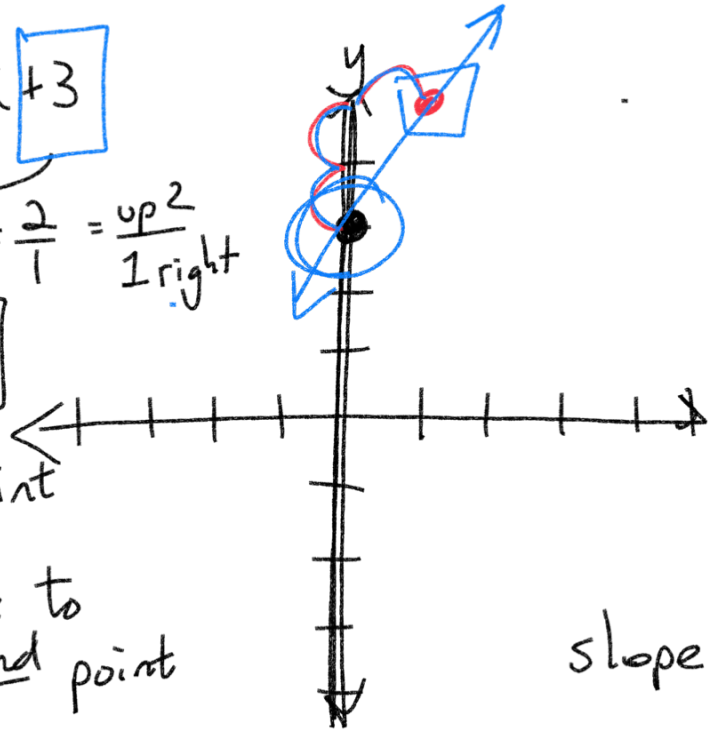
$y = 2x + 3$

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

y-int $= 3$

1) plot y-int

2.) use slope to plot 2nd point



slope-intercept form

$y = mx + b$

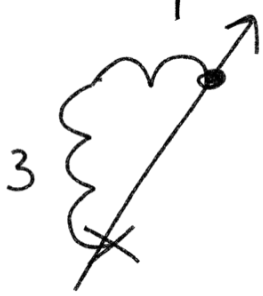
slope y-intercept

(x, y) points on the graph

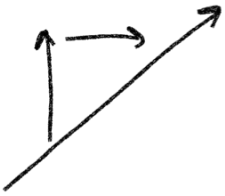
$\text{slope} = \frac{\Delta y}{\Delta x} = \frac{\text{rise}}{\text{run}} = \frac{\text{up}}{\text{right}}$

For example

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



⊕ slope



⊖ slope

slope-int form

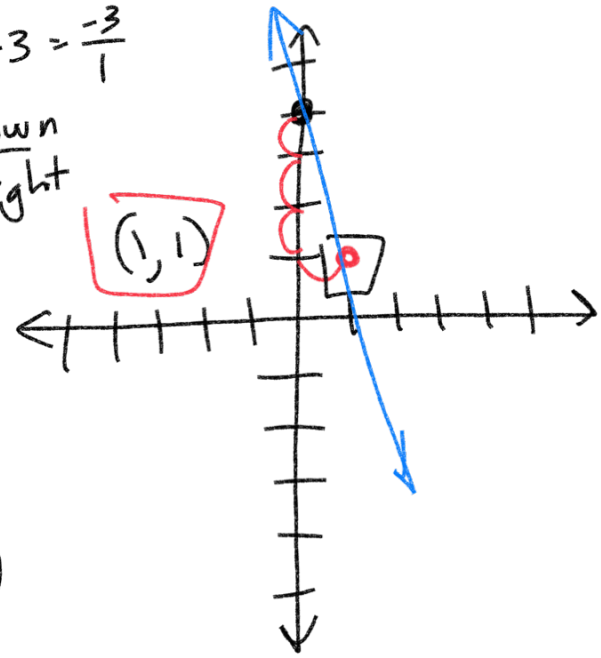
$y = -3x + 4$

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

$\frac{3 \text{ down}}{1 \text{ right}}$

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

(1,1)



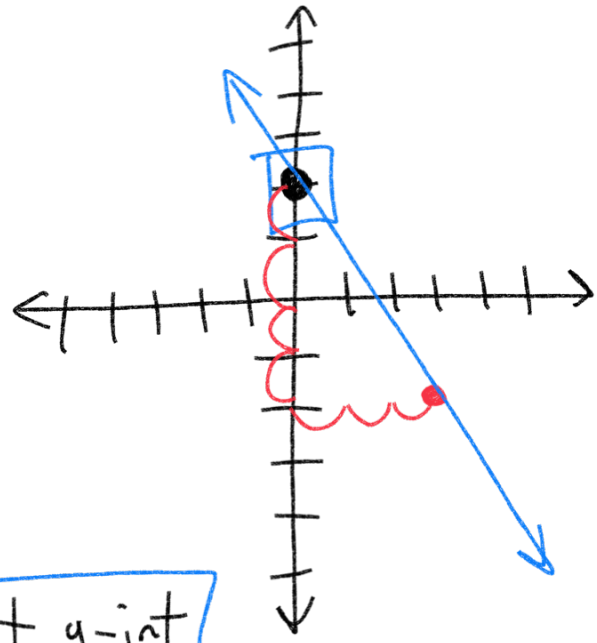
$$y = \boxed{-\frac{4}{3}}x \boxed{+2}$$

slope-intercept form

$$y = \boxed{m}x + \boxed{b}$$

$\boxed{\text{slope}} = -\frac{4}{3}$

$\boxed{\text{y-int}} = 2$



slope $= \frac{-4}{3}$

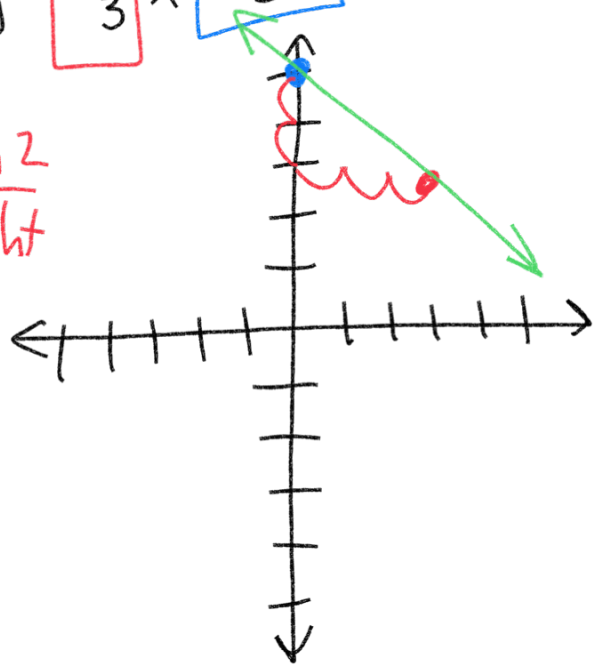
$\frac{\text{down } 4}{3 \text{ right}}$

1.) Plot y-int

2.) Use slope to find 2nd pt.

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

$\frac{\text{down } 2}{3 \text{ right}}$



2.) $y = \boxed{4}x \boxed{-3}$

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