W-A1 Algebra 1 3/23

1.) Which of the following is a function?

If a function, state domain and range.

Each input (x) has one, and only one, output (y)

a.) (1,2), (2,4), (3,6), (4,-8)

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

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

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

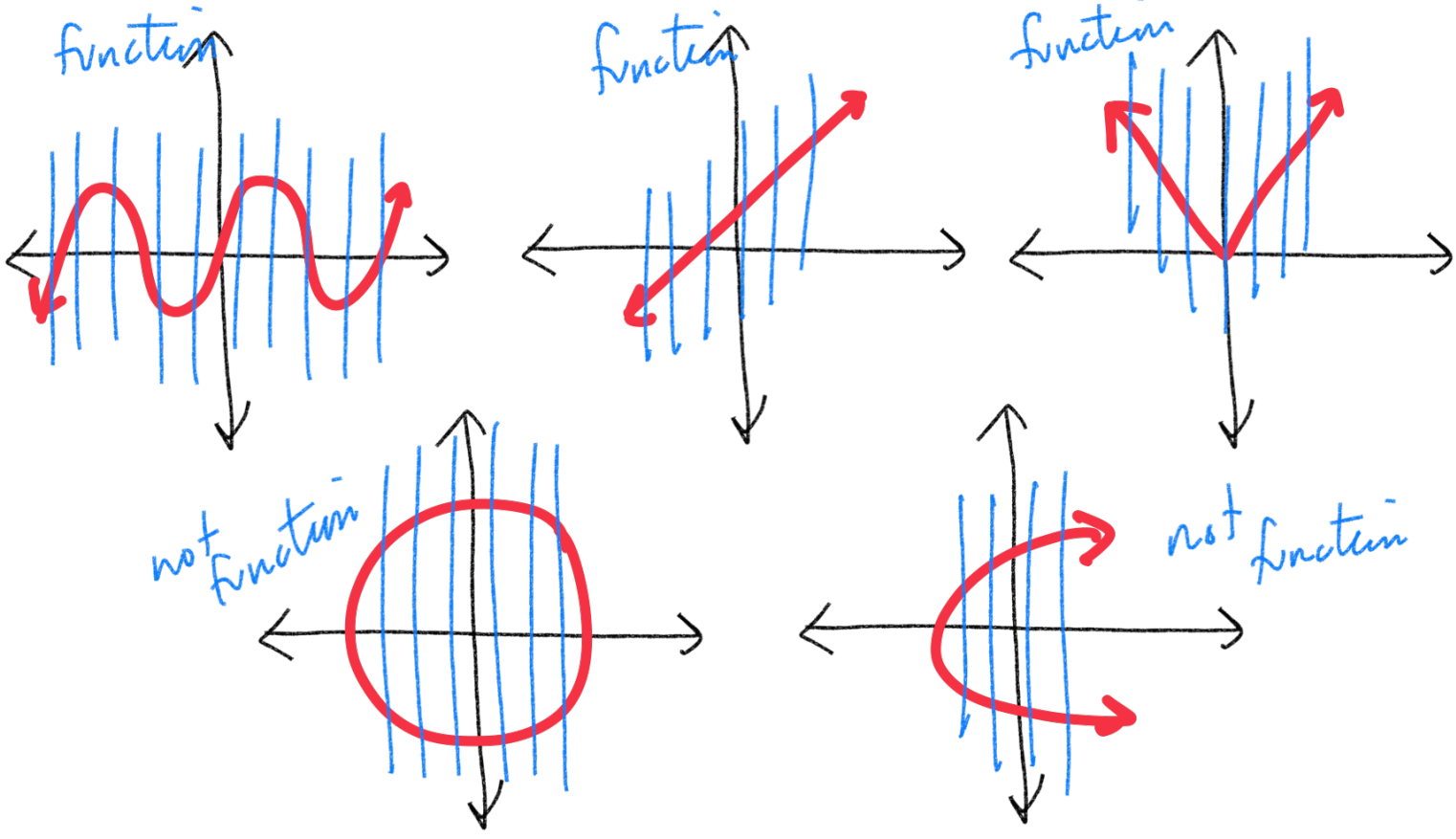
c) (x, y)
(-1,2), (-2,6), (1,-2), (2,-6)

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

d) (0,4), (1,3), (1,5), (2,8)

not a function

Vertical Line Test



# Salary Used Car Salesperson

(in hundreds of dollars)

$[y = 2x + 3]$

$x$ = # of cars sold

$x = 5$ (input)

$y = 2(5) + 3$

$10 + 3$

$y = 13$ (output)

$x = 8$ (input)

$y = 2(8) + 3$

$16 + 3$

$y = 19$ (output)

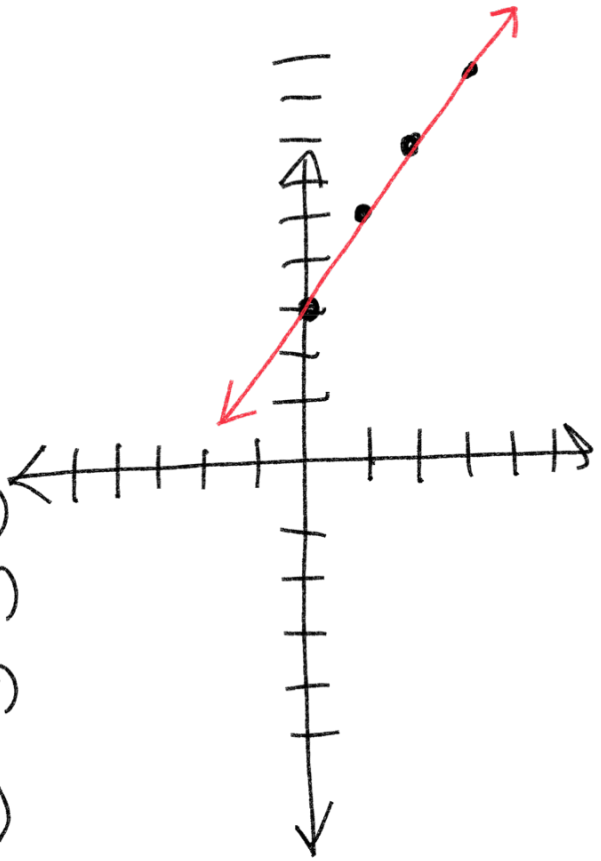
$x = -3$

$y = 2(-3) + 3$

$-6 + 3$

$y = -3$

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

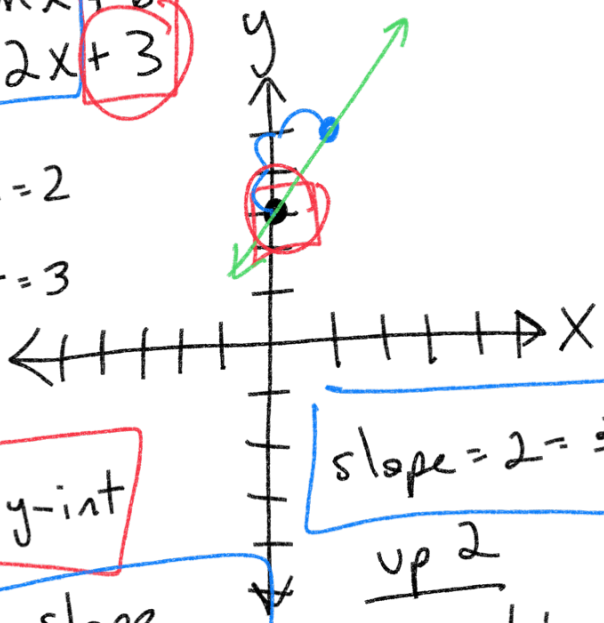


$y = mx + b$

$y = 2x + 3$

$m$ = slope = 2

$b$ = y-int = 3




slope = $2 = \frac{2}{1}$

1.) Plot y-int

2.) Use slope to find the second pt.

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

slope-intercept form

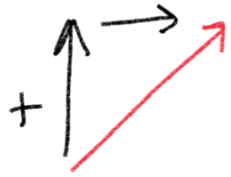
$y = mx + b$

slope, y-intercept

$(x, y)$ points on a graph

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

⊕ slope




⊖ slope

For example

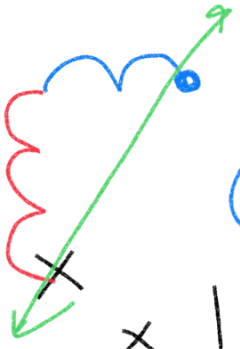
slope $= m = \frac{3}{2} = \frac{\text{up } 3}{2 \text{ right}}$

$y = mx + b$

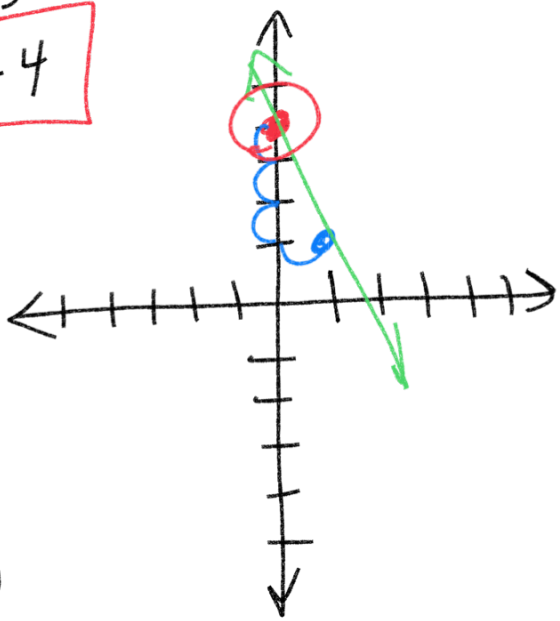
$y = -3x + 4$

$m = -3$

y-int = 4

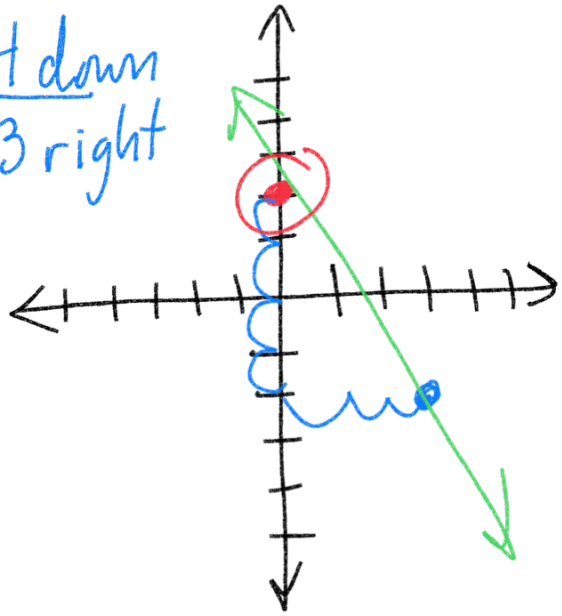



| x | $-3x + 4$ | y | |
|---|---|---|---|
| 0 | $-3(0) + 4 = 0 + 4$ | 4 | (0, 4) |
| 1 | $-3(1) + 4 = -3 + 4$ | 1 | (1, 1) |
| 2 | $-3(2) + 4 = -6 + 4$ | -2 | (2, -2) |



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

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



1.) Plot y-int

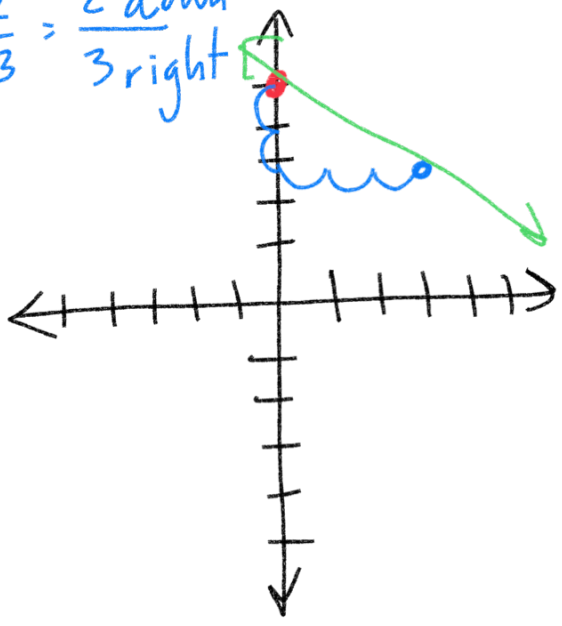
2.) Use slope to find the next pt

$y = mx + b$

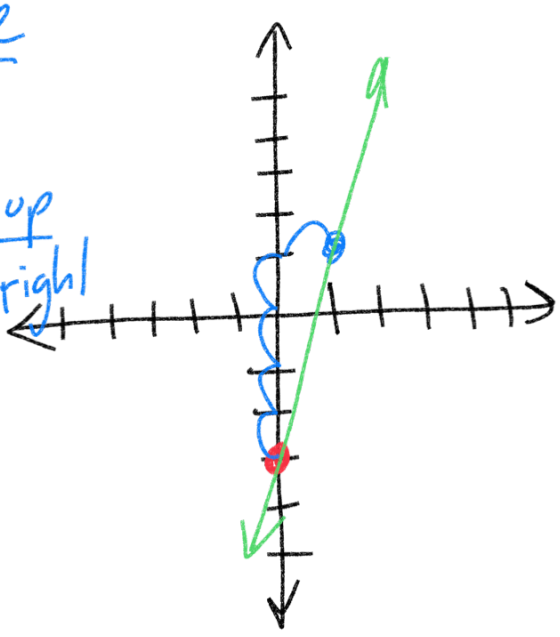
slope  y-int

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

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



2.) $y = 4x - 3$

$\frac{\text{rise}}{\text{run}}$

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