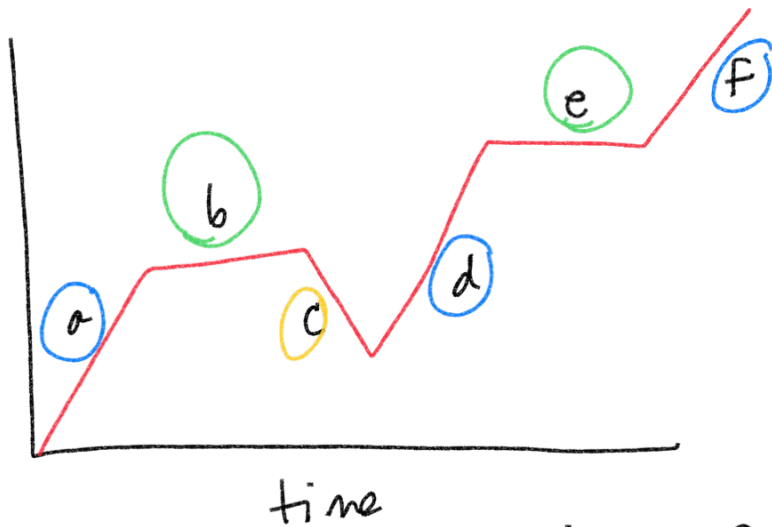


T-A1 Algebra 1 Week 25

distance from home



positive slope (+)  
increasing distance  
upward

a, d, f

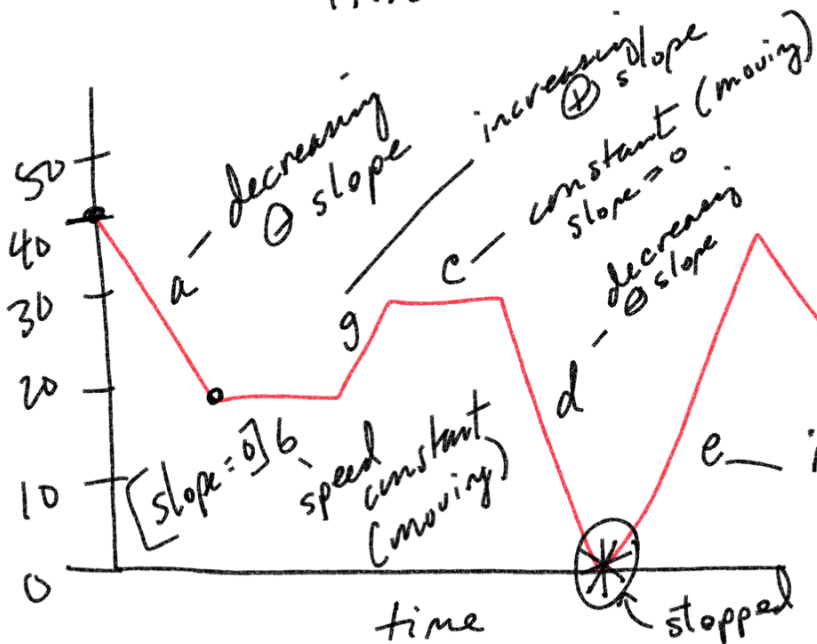
slope = 0 (horizontal)  
constant  
not moving

b, e

negative slope (downward)  
decreasing distance

c

speed



decreasing slope (-)

increasing slope (+)

constant slope = 0 (moving)

decreasing slope (-)

increasing slope (+)

decreasing slope (-)

Functions

Every input (x) must have one and only one output (y)

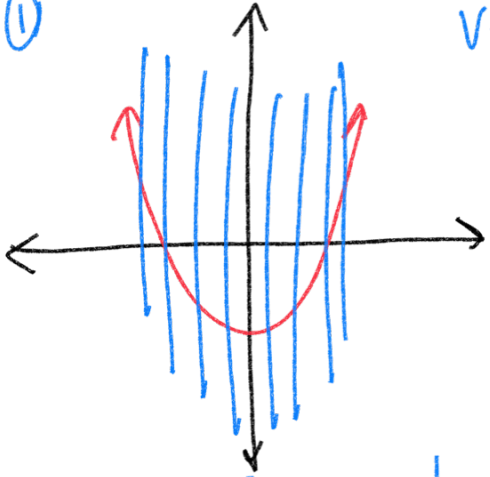
| x | y  |
|---|----|
| 0 | 8  |
| 1 | 9  |
| 2 | 10 |
| 3 |    |

function

| x | y  |
|---|----|
| 0 | 8  |
| 1 | 9  |
| 2 | 10 |
| 3 | 12 |

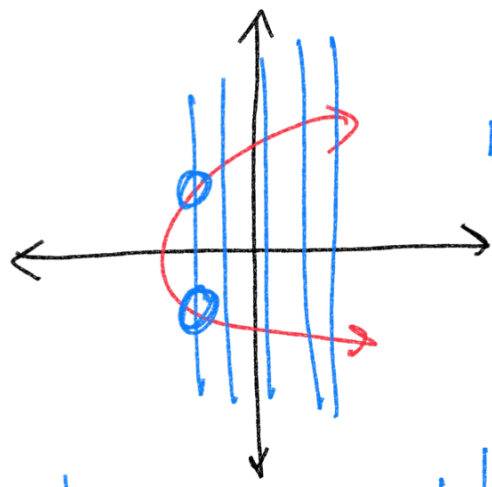
not function

①

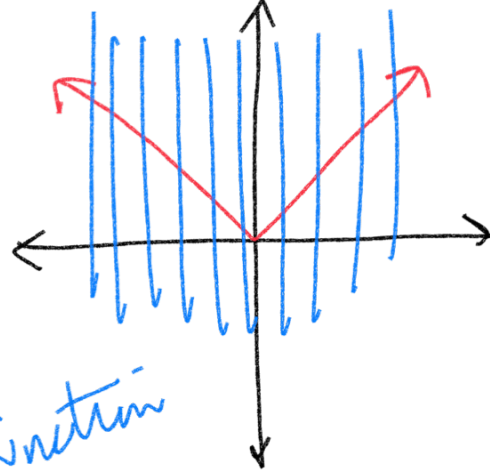


vertical  
line  
test

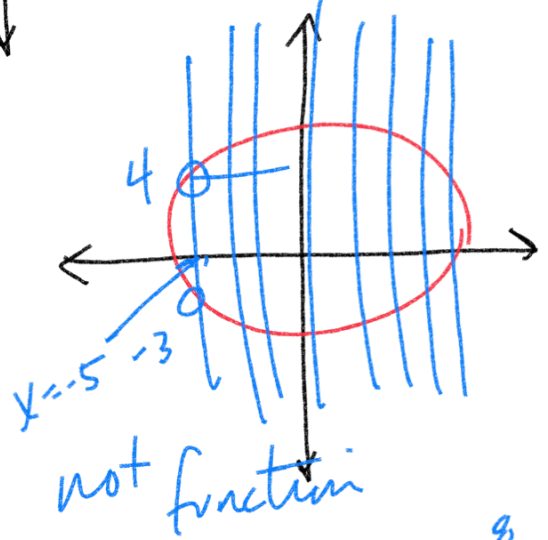
function



not  
function



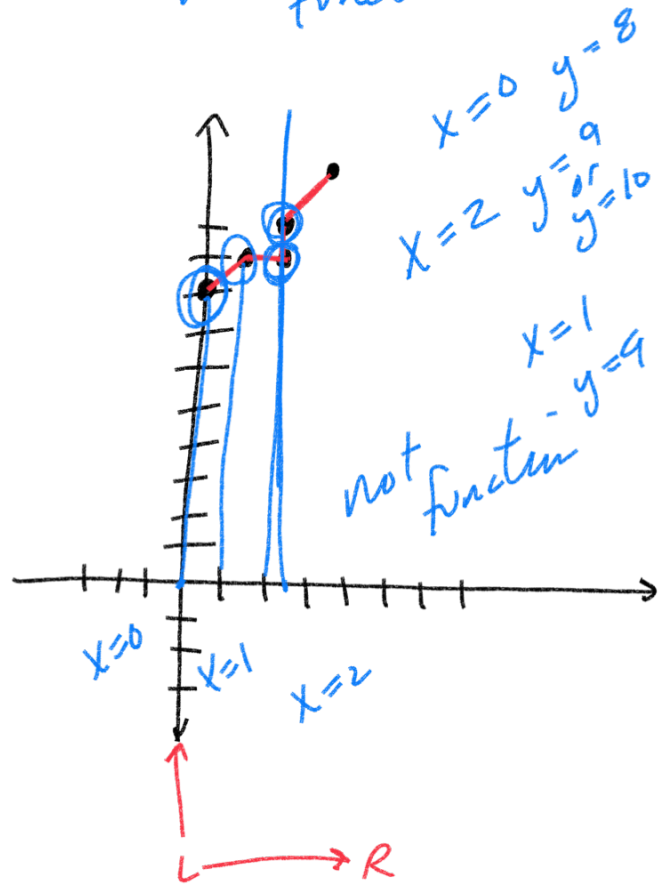
function



not function

| x | y  |
|---|----|
| 0 | 8  |
| 1 | 9  |
| 2 | 10 |
| 3 | 12 |

not  
function



not  
function

Domain  $\rightarrow$  x values

Range  $\rightarrow$  y values

$$\begin{matrix} x & & x & & x & & x & & x \\ \downarrow & & \downarrow & & \downarrow & & \downarrow & & \downarrow \\ (-4, 3), & (-2, -1) & (0, 0) & (1, 4) & (2, 6) \end{matrix}$$

$$\text{Domain: } \{-4, -2, 0, 1, 2\}$$

$$\text{Range: } \{3, -1, 0, 4, 6\}$$

Evaluate Functions



$$f(x) = 4x$$

$\leftarrow$  template

$f(x) \rightarrow$  "f of x"

$$x = -2$$

type of cookie dough functions with x as the variable

$$f(-2) = 4(-2) = -8$$

input  $\rightarrow$  -2    output  $\rightarrow$  -8

$$f(x) = 2x + 1$$

$$f(8) = 2(8) + 1 = 16 + 1 = 17$$

input  $\rightarrow$  8    output  $\rightarrow$  17

$$f(x) = \frac{1}{2}x - 8$$

input = -4

$$f(-4) = \frac{1}{2}(-4) - 8$$

output = -10

$$-\frac{4}{2} - 8 = -2 - 8 = -10$$

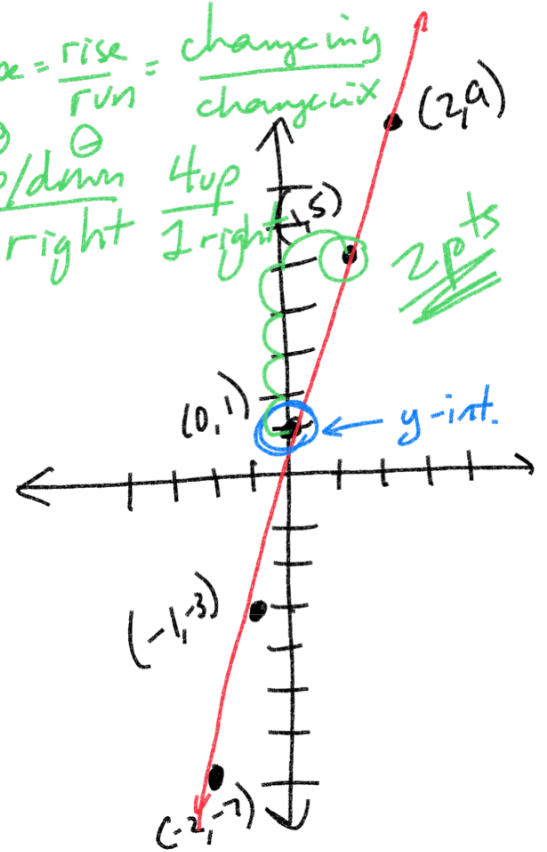
slope =  $\frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x}$

$\oplus$  up/down right  
 $\ominus$  4up 1right

$f(x) = 4x + 1$  ← y-intercept

slope =  $\frac{\text{rise}}{\text{run}}$  output

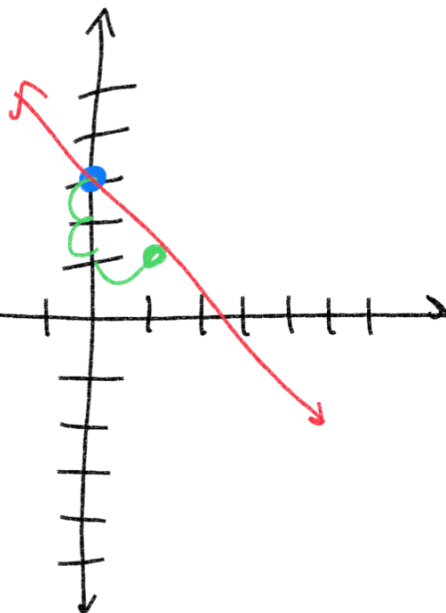
| input<br>x | 4x + 1             | y  |          |
|------------|--------------------|----|----------|
| -2         | 4(-2) + 1 = -8 + 1 | -7 | (-2, -7) |
| -1         | 4(-1) + 1 = -4 + 1 | -3 | (-1, -3) |
| 0          | 4(0) + 1 = 0 + 1   | 1  | (0, 1)   |
| 1          | 4(1) + 1 = 4 + 1   | 5  | (1, 5)   |
| 2          | 4(2) + 1 = 8 + 1   | 9  | (2, 9)   |



$y = -2x + 3$  ← y-int

slope =  $\frac{\text{rise}}{\text{run}} = \frac{\text{up/down}}{\text{right}}$

down 2  
1 right



$$y = \left(\frac{2}{3}\right)x - 4 \leftarrow y\text{-int}$$

slope

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

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

HW  
ch 5.2 evens  
ch 5.3 evens  
Supplemental WS

Online HW 25 } April 13<sup>th</sup>  
Quiz 25 }

HW & 24 April 6<sup>th</sup>

Test ASAP

