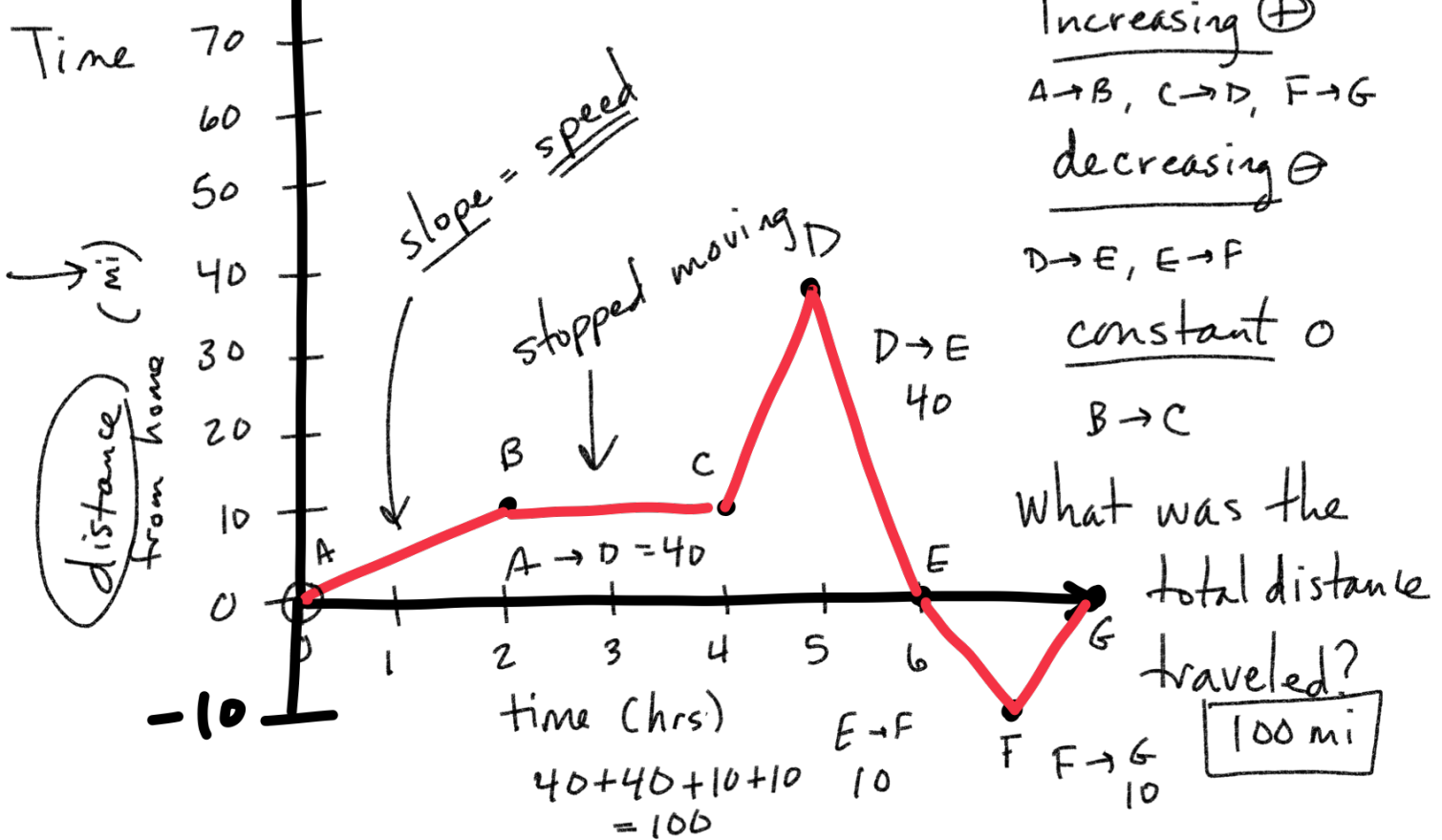




Position vs Time

Charlie's Wild Ride



Input/Output Functions

input \rightarrow independent
output \rightarrow dependent

input # of sandwiches	output \$\$
1	\$5
2	\$10
5	\$25
28	\$140

Not a function

Every one input must have one, and only one, output.

Function must be predictable

# of plate	\$\$
1	\$12
2	\$12
5	\$12
82	\$12

Corral (buffet)

function

multiple inputs can return the same output

①

(x) input	(y) output
1	2
3	8
4	8

yaw!
function

②

x	y
0	4
2	8
3	10

Naw!

$x \rightarrow$ input \rightarrow independent variable

$y \rightarrow$ output \rightarrow dependent variable

ordered pairs (x, y)

Each input must give you one, and only one, output

1.) $(1, 3), (2, 4), (3, 5), (4, 5)$

input output

function

x	y
1	3
2	4
3	5
4	5

2.) $(2, 7), (3, 9), (3, 12), (5, 12)$

Now! Not function

3.) $(0, 5), (1, 3), (0, 5), (2, 8), (3, 1)$

function

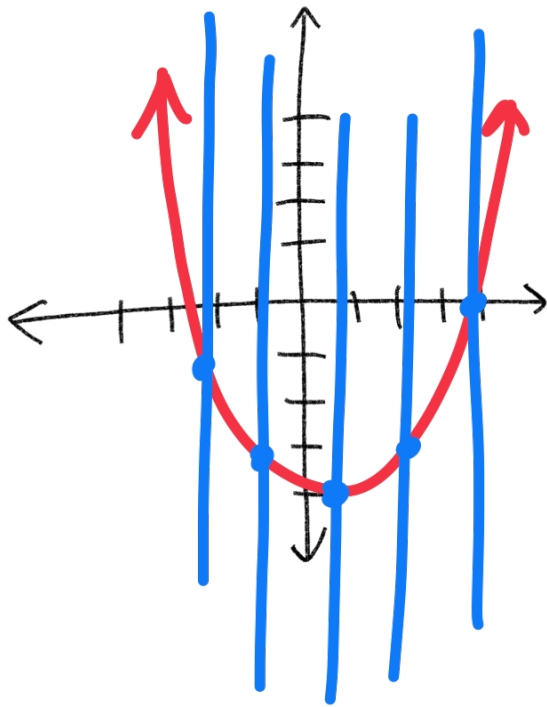
Domain \rightarrow all inputs \rightarrow all x values

Range \rightarrow all outputs \rightarrow all y values (x, y)

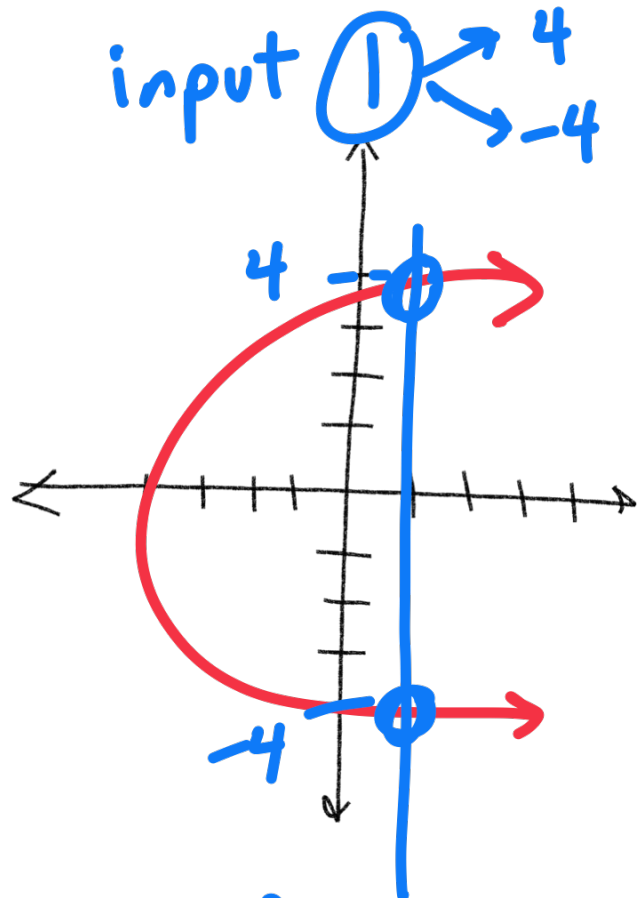
$(2, 8) \quad (3, 12) \quad (4, 16) \quad (6, 22)$ function

Domain $\{2, 3, 4, 6\}$ Range: $\{8, 12, 16, 22\}$

Vertical Line Test



function
input \rightarrow 1 output



Not function

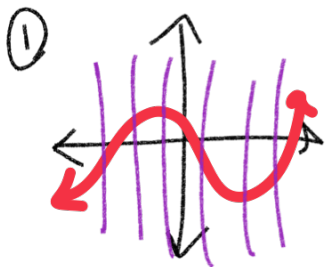
Function or naw?

$(1, 2)$, $(2, 3)$, $(2, 4)$, $(3, 5)$, $(4, 6)$ Naw!
Not function

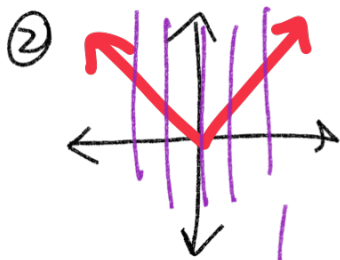
Find the domain and range Domain $\{0, 1, 2, 5\}$

$(0, -3)$, $(1, 8)$, $(2, 32)$, $(5, 78)$ Range $\{-3, 8, 32, 78\}$

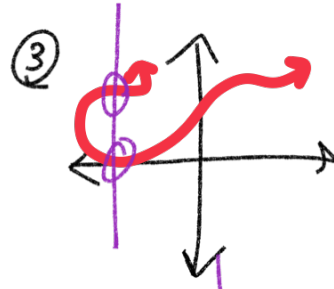
Function or naw?



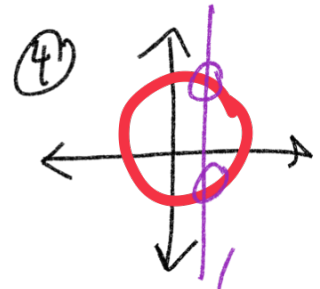
function!
yaw!



yaw!
function



Naw!
Not function



Naw!
Not function