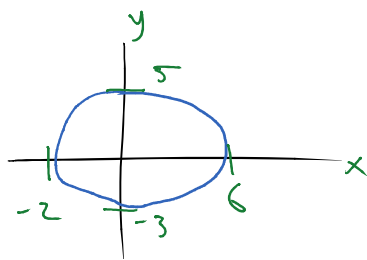


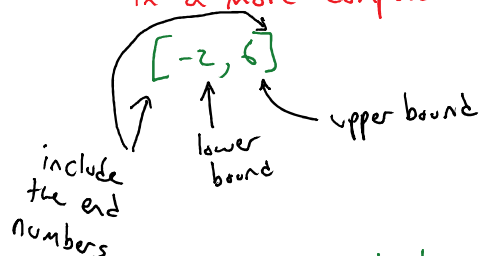
Interval Notation



Domain: All Real numbers between -2 and 6 inclusive

$$\{x \mid -2 \leq x \leq 6; x \in \mathbb{R}\}$$

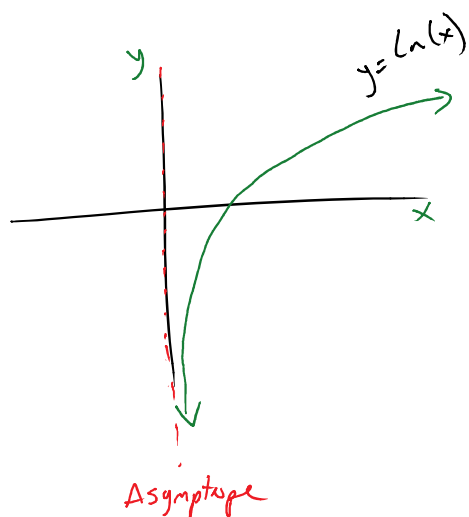
Interval Notation takes this part and writes it in a more compact way



Range: All Real numbers between -3 and 5 inclusive

$$\{y \mid -3 \leq y \leq 5; y \in \mathbb{R}\}$$

$$[-3, 5]$$



Domain: All Real numbers greater than zero
Not inclusive.

$$\{x \mid x > 0; x \in \mathbb{R}\}$$

$$(0, \infty)$$

Not inclusive

Range: All Real numbers

$$\{y \mid y \in \mathbb{R}\}$$

$$(-\infty, \infty)$$

What is a function?

Function: Is a relation where all independent values (usually x) are associated with only one dependent value (usually y).

Ex:

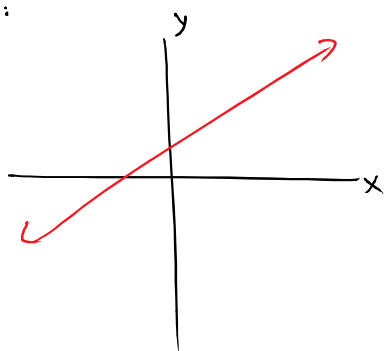
..

y

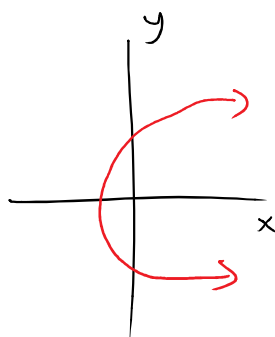
y

y

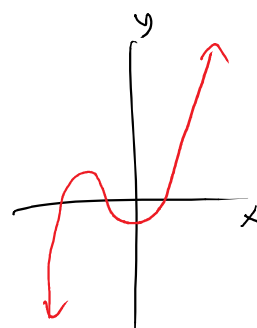
Ex:



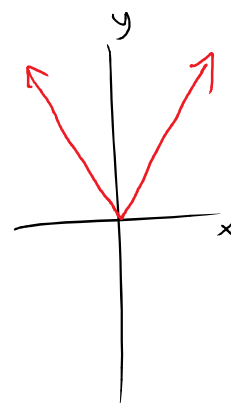
Function ✓



Not a function ✗



Function ✓



Function ✓

x	y
0	-16
1	-9
2	-4
3	-1
4	2
5	9
6	16

Not a Function

x	y
0	0
1	2
2	4
3	6
4	8
5	10

Function

x	y
-1	1
-2	4
-3	9
-4	16

Function

Function Notation

$$y = 3x + 2$$

output ↑ ↑ input

Function Notation

Function f

$$f(x) = 3x + 2$$

↑ input ↑ input

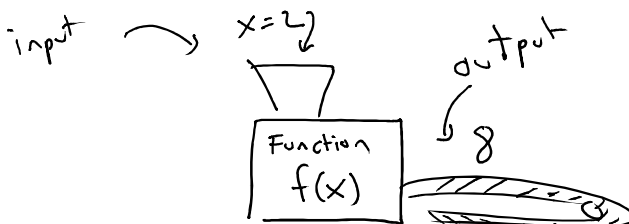
$$\text{output} = f(x)$$

for the most part

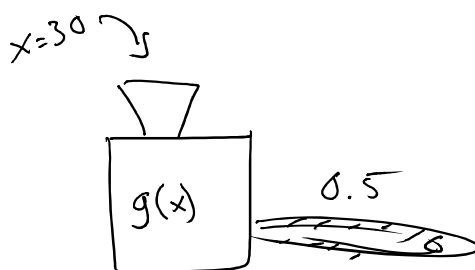
$$f(x) = y$$

$$g(x) = y$$

$$\vdots = y$$



$$\begin{aligned} f(2) &= 3(2) + 2 \\ &= 6 + 2 \\ &= 8 \end{aligned}$$



$$g(x) = \sin(x)$$

$$g(30) = 0.5$$

HW: pg 311, CH 6.4

Q: 1-7, 11

Batherson