2-25-2016

DOMAIN: THE SET OF POSSIBLE 1st NUMBERS FOR A FUNCTION (Xs)

RANGE: THE SET OF POSSIBLE 2nd NUMBERS (Ys)

EXAMPLE: DISCRETE BATTLESHIP

DOMAIN: 1, 2, 3, 4 RANGE: 2

CONTINUOUS BATTLESHIP

DOMAIN: $1 \leq x \leq 4$ RANGE: 2

(OTHER DOMAIN NOTATIONS:
$1 < x$ $x \geq 6$)

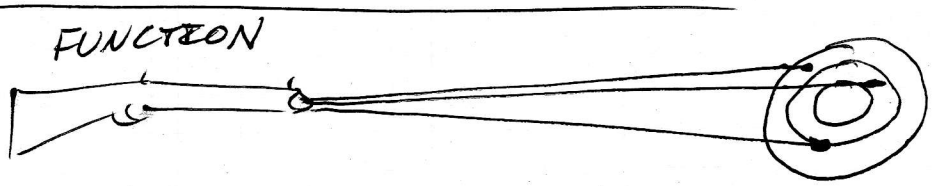
WAYS TO DESCRIBE A FUNCTION

- LIST ALL THE POINTS, OR A REPRESENTATIVE SAMPLE
- MAKE A TABLE OF POINTS

x	y

- GRAPH THE FUNCTION (CONNECT THE DOTS)
- USE AN EQUATION (i.e. $y = 3x + 1$)

AN ANALOGY FOR A FUNCTION



REVERSIBLE OR INVERSE

EACH BULLET HITS SAME PLACE

GRAPHING AN EQUATION

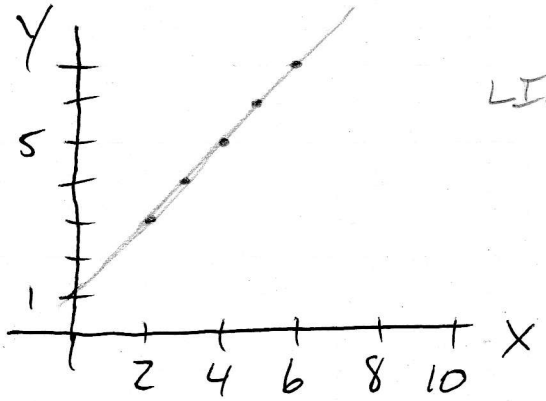
EXAMPLE: $y = x + 1$ FOR $2 \leq x \leq 6$ (DOMAIN)

TABLE

x	y
2	3
3	4
4	5
5	6
6	7

RANGE: $3 \leq y \leq 7$

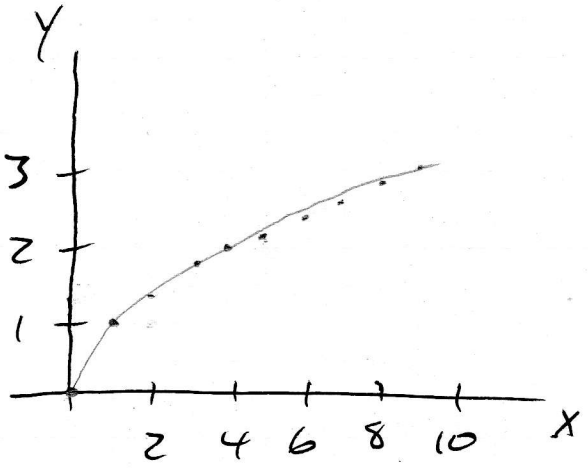
GRAPH



LINE

EXAMPLE: $y = \sqrt{x}$ FOR $0 \leq x \leq 9$

x	y
0	0
1	1
2	1.4
3	1.7
4	2
5	2.2
6	2.45
7	2.6
8	2.8
9	3



GRAPH $y = \sin(x)$ FOR $-360° \leq x \leq 360°$

NEED TO CHOOSE AN INCREMENT FOR X THAT GIVES ME 5-20 POINTS.

$$\Delta x = \frac{x_{MAX} - x_{MIN}}{n}$$

I'LL CHOOSE $n = 16$, SO $\Delta x = \frac{360 - (-360)}{16} = \frac{720}{16}$

$$\Delta x = 45°$$

TABLE

	X	y
	$-360°$	0
$+45°$	$-315°$	0.71
$+45°$	$-270°$	1
	$-225°$	0.71
	$-180°$	0
	$-135°$	-0.71
	$-90°$	-1
	$-45°$	-0.71
	$0°$	0

x	y
$45°$	0.71
$90°$	1
$135°$	0.71
$180°$	0
$225°$	-0.71
$270°$	-1
$315°$	-0.71
$360°$	0

$-1 \leq y \leq 1$