

## 1.6: Represent Functions as Rules and Tables

**Goals:**

- \*Identify whether a pairing as a function
- \*Identify domain and range of a function
- \*Identify dependent and independent variables
- \*Make tables for functions
- \*Write rules for functions

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**Function:** a relationship between \_\_\_\_ variables called \_\_\_\_\_ and \_\_\_\_\_.

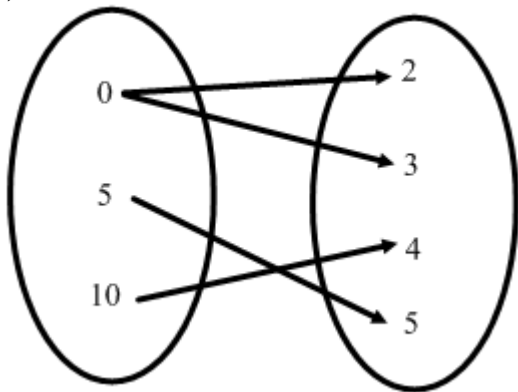
**\*\*EACH INPUT CAN HAVE EXACTLY \_\_\_\_\_ !!**

**Domain:** the set of all \_\_\_\_\_ values

**Range:** the set of all \_\_\_\_\_ values

**Ex:** Tell whether each pairing is a function. If yes, state the domain and range. If no, say why.

A)



B)

Input	Output
0	0
1	2
4	8
6	12

C)

Input	Output
3	1
6	2
9	2
12	1

D)

Input	2	2	4	7
Output	0	1	2	3

**\*You can represent a function in 3 ways:**

a)

b)

c)

**For the following functions, make a table and identify the range.**

**Ex:** Function is  $y = 2x$  with a domain of 0, 2, 5, 7, 8


**Ex:** Function is  $y = x - 5$  with a domain of 10, 12, 15, 18, 29

**To write a rule for a function:**

1. Start with \_\_\_\_\_
2. Find out what is happening to \_\_\_\_\_ to get \_\_\_\_\_
3. Check that it works for all \_\_\_\_\_!

**Write a rule for each function.**

**Ex:**

<b>Input (x)</b>	0	1	4	6	10
<b>Output (y)</b>	2	3	6	8	12

**Ex:**

<b>Input</b>	1	2	4	7	9
<b>Output</b>	0	1	3	6	8

**Ex:**

<b>Time (hrs)</b>	1	2	3	4
<b>Pay (\$)</b>	8	16	24	32

**Writing a rule for a function:** (\*don't forget all functions start with:  
\_\_\_\_\_)

$\Delta$  is the Greek letter \_\_\_\_\_. In math, it means \_\_\_\_\_

**Ex:**  $\Delta T$  would mean to find:

If it was  $59^\circ$  this morning and it is  $65^\circ$  now, what is  $\Delta T$ ?

1. **Find  $\Delta x$**  “how much does \_\_\_\_\_ change by each time?”
2. **Find  $\Delta y$**  “how much does \_\_\_\_\_ change by each time?”
3. **Set up a fraction:** \_\_\_\_\_ **Simplify if possible. DO NOT MAKE A DECIMAL!**
4. **This number (the one you get from the fraction) becomes the \_\_\_\_\_ of  $x$  in your function.** (This mean it \_\_\_\_\_  $x$ )
5. **Check to see if your function works by putting in \_\_\_\_\_ and seeing if you get the correct \_\_\_\_\_. If not, adjust your function by adding or subtracting.**

**Write a rule for each function, using the steps provided.**

**Ex:**

$x$	$y$
0	1
2	5
4	9
6	13

**Ex:**

$x$	1	4	7	10
$y$	1	10	19	28