Domain and Range Lesson

Name: _____

Hour: _____   Date: _____

All functions consist of:

- A set of numbers called **domain**, and a set of numbers called **range**
- A pairing of domain with range such that each number in the domain is paired with exactly one number from the range

Domain and Range is called and referred to a few different names:

- Domain: _____ , _____ , _____

- Range: _____ , _____ , _____

Identifying Domain and Range

Mapping Diagram:

x	y
-2	-4
1	-2
5	6

Domain: _____

Range: _____

Function: Yes or No

Input   Output

Remember, another way to think of a function is:

" _____ "

Try These: Do the table(s) or mapping diagram(s) represent a function?

| x	y
3	1
6	2
9	2
12	1

Function: Yes or No

x	y
0	0
1	2
4	8
6	12

Function: Yes or No

x	y
2	0
2	1
4	2
7	3

Function: Yes or No

Input   Output

0
5
10

2
3
4
5

Function: Yes or No

Vertical Line Test

When looking at the graph of a possible function, one way to check is to use the vertical line test. If a vertical line drawn anywhere on a graph hits the graph in more than one spot, then the graph is **NOT** a function.

1   2   3   4   5

Which of these represent functions?

_____
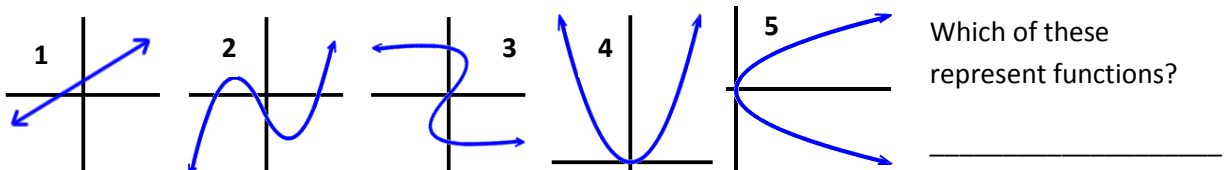
Try these: Which of these graphs below represent a function? _____

A B C D E
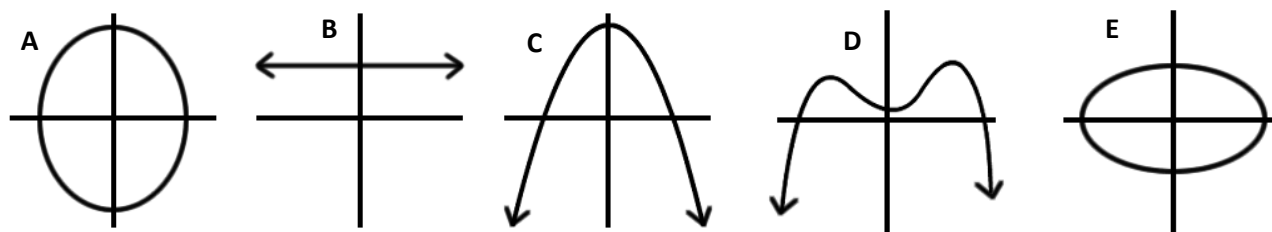
Make a Table for the Function
The domain of the function, $y = 2x+1$ is 0, 1, 2, 4, and 7. Make a table and then identify the range.

x	0	1	2	4	7
y					

Range: _____

Try These:

The domain of the function, $y = x - 2.5$ is 0, 2, 5, 7, and 9. Make a table and then identify the range.	The domain of the function, $y = 3x + 4$ is 0, 3, 4, 6, and 10. Make a table and then identify the range.

x					
y					

Range: _____

x					
y					

Range: _____

Write a Rule for a Function
Look for a pattern in the table below for the output compared to the input and try to determine a rule.

x	0	1	4	6	10
y	3	4	7	9	13

Notice that the output in the table is exactly _____ than the input.

Therefore, a rule for this function can be written as: _____

Try These: Determine the rule for the table.

x	-1	1	4	7	9
y	-4	-2	1	4	6

Rule: _____

x	-1	1	4	7	9
y	-5	5	20	35	45

Rule: _____