

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Notes

Algebra Section 1.6

Pages

**Goal:** "I will be able to write a function as a rule and as a table"  
"I will identify the domain and range of a function"



**Vocabulary:**

**Function:** \_\_\_\_\_

**Domain:** \_\_\_\_\_

**Range:** \_\_\_\_\_

**Dependent Variable:** \_\_\_\_\_

**Independent Variable:** \_\_\_\_\_

Example:

The input-output table shows the cost of various amounts of regular unleaded gas from the same pump. Identify the domain and range of the function.

<b>Input (gallons)</b>	10	12	13	17
<b>Output (dollars)</b>	19.99	23.99	25.99	33.98

Domain (Input): 10,12,13,17

Range (Output): 19.99, 23.99, 25.99, 33.98

Try These:

a) Identify the domain and range of the given function:

Input	1	3	4	8
Output	5	11	14	26

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

b) Identify the domain and range of the given function:

Input	0	1	2	4
Output	5	2	2	1

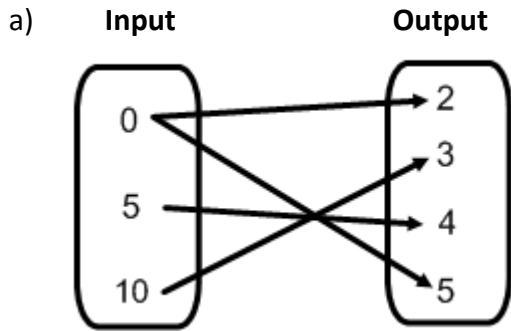
Domain: \_\_\_\_\_

Range: \_\_\_\_\_

\*\*Why is it a function even though 2 appears twice in the output? \_\_\_\_\_

\_\_\_\_\_

Decide if the following relationships represent a function. Explain why or why not. If yes, identify the domain and range.



b)

Input	Output
0	0
1	2
4	8
6	12

c)

Input	3	6	9	12
Output	1	2	2	1

d)

Input	2	2	4	7
Output	0	1	2	3

### Ways to Represent Functions

Example:

**Verbal Rule**

The output is 3 more than the input.

**Equation**

$$y = 3 + x$$

**Table**

Input (x)	0	1	2	3
Output (y)	3	4	5	6

**Plug in the values**

Try These:

a) The domain of the function  $y = 2x$  is 0, 2, 5, 7, 8. Make a table for the function. Then identify the range.

<b>Input</b>					
<b>Output</b>					

Range: \_\_\_\_\_

b) Make a table for the function  $y = x - 5$  with a domain of 10, 12, 15, 18, 29. Then identify the range.

<b>Input</b>					
<b>Output</b>					

Range: \_\_\_\_\_

**Writing a Rule for a Function:**

Basic Premise: If you have  $x$ , how do you get  $y$ ?

a)

<b>Input</b>	0	1	4	6	10
<b>Output</b>	2	3	6	8	12

Rule: \_\_\_\_\_

b)

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

Rule \_\_\_\_\_

c)

<b>Input</b>	1	3	5	7	9
<b>Output</b>	1	5	9	13	17

Rule: \_\_\_\_\_

Write a rule for the following functions.

a)

<b>Input</b>	0	3	6	9	12
<b>Output</b>	5	14	23	32	41

Rule: \_\_\_\_\_

b)

<b>Input</b>	4	6	10	16	26
<b>Output</b>	4	5	7	10	15

Rule \_\_\_\_\_

c) You are buying concert tickets that cost \$15 each. You can buy up to six tickets.

a) Write a rule for the amount you spend (in dollars) ( $A$ ) as a function of the number of tickets you buy ( $t$ ).

b) Make a table to identify the range.

Number of Tickets $n$							
Amount (dollars) $A$							

c) Identify the independent and dependent variables.

d) Identify the domain and range.

d) At a community center, art lessons are offered at night. The fee is \$12 per lesson. You plan to attend up to 5 lessons.

- a) Write a rule for the amount you spend (in dollars) as a function of the number of lessons you attend.
- b) Identify the independent and dependent variables.
- c) Identify the domain and range.