## 1.6/1.7 Functions Quiz

Study Guide

## 1.6: Functions as Rules and Tables

- Be able to identify an input output relationship as a function or not and explain why.

Are the following examples functions? If yes, state why. If not state why not.

Ex: | $\boldsymbol{x}$ | $\boldsymbol{y}$ |
| :---: | :---: |
| 3 | 1 |
| 2 | 1 |
| 1 | 1 |
| 0 | 1 |

Ex:

| $\boldsymbol{x}$ | 5 | 7 | 5 | 14 |
| :--- | :--- | :--- | :--- | :--- |
| $\boldsymbol{y}$ | 2 | 6 | 9 | 11 |

Yes, each input has one output
No, the input 5 has multiple outputs


No, the graph would not pass the vertical line test. This means that an input has more than one output.

- Be able to identify domain and range of a function.

For the functions below, identify the domain and range.
Ex:

| Input | Output |
| :---: | :---: |
| 0 | 0 |
| 1 | 2 |
| 4 | 8 |
| 6 | 12 |



Domain: _0, 1, 4, 6
Domain: $\qquad$ $1,2,3,4,5$ $\qquad$
Range: __0, 2, 8, 12
Range: $\qquad$ $2,3,4,5,6$ $\qquad$

- Be able to write a rule for a function given a table or graph.


## Write a rule for each function below.

Ex:

| $\boldsymbol{x}$ | $\boldsymbol{y}$ |
| :---: | :---: |
| -10 | 7 |
| -5 | 5 |
| 0 | 3 |
| 5 | 1 |
| 10 | -1 |

$$
y=-\frac{2}{5} x+3
$$

Ex:

| $\boldsymbol{x}$ | 1 | 4 | 7 | 10 |
| :---: | :---: | :---: | :---: | :---: |
| $\boldsymbol{y}$ | 1 | 10 | 19 | 28 |

$$
y=3 x-2
$$

## 1.7: Represent Functions as Graphs

- Be able to graph a function

Ex: Graph the function $y=2 x+3$ with a domain of $-2,-1,0,1,2$

| $\boldsymbol{x}$ | $\boldsymbol{y}$ |
| :---: | :---: |
| -2 | -1 |
| -1 | 1 |
| 0 | 3 |
| 1 | 5 |
| 2 | 7 |



