Relations and Functions Notes

**Vocabulary**

1. **Relation**
   1. Relation - a set of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a relation because it is a set of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. **Function**
3. Function - a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in which each element of the \_\_\_\_\_\_\_\_\_\_\_\_\_ (domain) is paired with **exactly** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ element in the \_\_\_\_\_\_\_\_\_\_\_ (range) according to a specified rule.
4. Each \_\_\_\_\_\_\_\_\_\_\_\_\_ has only 1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a function because each \_\_\_\_\_\_\_\_\_\_\_\_\_\_value is paired with only 1 \_\_\_\_\_\_\_\_\_\_\_\_\_ value.
   1. A function can be represented in several ways including:
   2. b.

c. d.

1. **Domain**
   1. Domain - the set of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ values for a function. (\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
   2. Example – Given the function {(1, *5*), (2, *-3*), (3, *0*), (4, *2*)}

The domain is

1. **Range**
   1. Range - the set of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ values for a function. (\_\_\_\_\_\_\_\_\_\_\_\_)
   2. Example – Given the function {(1, *5*), (2, *-3*), (3, *0*), (4, *2*)}

The range is

1. **Linear Equation**
   1. Linear Equation - an equation for which the graph is a \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_.
   2. ****Example:
2. Function Table
   1. Function Table - a table used to organize the input numbers, output numbers, and the function rule.
   2. Example: Given y = 2x + 3, create a function table.

|  |  |  |
| --- | --- | --- |
| x | y = 2x + 3 | Y or f(x) |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1. Independent Variable
   1. Independent Variable: The independent variable is the \_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_) value.
   2. It is the value that you may \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   3. Note: If \_\_\_\_\_\_\_\_\_\_\_\_\_\_is an option, it will always be the independent variable.
   4. Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Dependent Variable
   1. Dependent Variable: The dependent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the independent variable.
   2. It is the \_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_) value.