

Functions Vocabulary

DRYMMZ

1. **Domain** - The set of X-values of a relation. (must be written in numerical order, no repeats)
Also known as the Independent Variable

2. **Range** - The set of y-values of a relation. (must be written in numerical order, no repeats)
Also known as the Dependent variable.

3. **Function** - In order for a relationship to be a function, the X-values cannot repeat.
** Must pass the vertical line test.



4. **Rate of Change** - Another name for slope (m).
** Two types: Constant - When the slopes are the same. $\frac{\Delta y}{\Delta x}$ or $m = \frac{y_2 - y_1}{x_2 - x_1}$
Variable - When the slopes are different.

5. **Initial Value** - Another name for y-intercept (b)

6. **Linear** - A relation in which the graph is a straight line, the rate of change is constant, and the highest exponent of x is 0 or 1.
ex $y = 3x + 2$ linear

7. **Nonlinear** - A relation in which the graph is NOT a straight line, the rate of change is variable, and the highest exponent of x is not 0 or 1 (can be greater than or less than 1).
ex $y = 2x^2 + 5$ or $y = \frac{1}{x} = x^{-1}$ NOT 0

8. **Increasing** - A relation is increasing when the rate of change is positive.

9. **Decreasing** - A relation is decreasing when the rate of change is negative.

10. **Constant** - A relation is constant when the rate of change is zero.

11. **Direct Variation** - A relation that is linear, has a constant ratio, and intersects the point (0,0). $y = \frac{y}{x}$

12. A company charges a fee. On a graph, this is represented by the y-intercept.