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

# Characteristics of Linear Graphs

**Interval Notation:**

Represents an interval as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The numbers are the endpoints of the interval. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and/or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are used to show excluded or included.

**Interval** :

**Domain and Range:**

**Domain:** The \_\_\_\_\_\_\_\_\_\_\_\_\_ that are contained in the graph. Write it from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Range:** The \_\_\_\_\_\_\_\_\_\_\_ that are contained in the graph. Write it from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Examples:

1. D: \_\_\_\_\_\_\_\_\_ 2) D: \_\_\_\_\_\_\_\_\_ 3) D: \_\_\_\_\_\_\_\_\_

![[image]]()![[image]]()![[image]]()R: \_\_\_\_\_\_\_\_\_ R: \_\_\_\_\_\_\_\_\_\_ R: \_\_\_\_\_\_\_\_\_

![[image]]()**Interval of Increasing and Decreasing:**

Always read from \_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_

* If your finger is going up, the graph is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* If going down, the graph is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Example**:

Inc: \_\_\_\_\_\_\_\_\_\_\_

Dec: \_\_\_\_\_\_\_\_\_\_

**Zeros/Roots/Solutions**

**Intercepts**

* **x-intercept –** the point at which the line intersects the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. ( )
* **y-intercept –** the point at which the line intersects the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. ( )

**End Behavior:**

* What a function keeps doing after it leaves the graph
* \_\_\_\_\_\_\_\_\_\_ : As x goes to the right, where does y go?
* \_\_\_\_\_\_\_\_\_\_ : As x goes to the left, where does y go?

![[image]]()![[image]]() 1)  2) 

**∞**

**-∞**

**∞**

**-∞**

**Rate of Change:**

* The rate of change is the average \_\_\_\_\_\_\_\_ of a graph over a given period
* The period is defined by \_\_\_\_\_\_\_\_\_\_
* The rate of change formula is: