**Study Sheet: Equations, Sequences Name\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Linear Equations:**

\*\*\*Equation of a Line (Linear): You must find and plug in \_\_\_\_\_\_\_\_ and then \_\_\_\_\_\_\_.

Horizontal or Vertical Line:

\*\*\*Slope of a Linear Equation (from 2 points):

Parallel lines have the \_\_\_\_\_\_\_\_\_\_ slope.

Perpendicular lines have slopes that are negative reciprocals. This means you \_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ the slope to get a slope perpendicular to a given slope.

How do you get x or y intercepts for **ANY** type of function? Plug in \_\_\_\_\_\_\_\_\_\_\_\_\_

**Exponential Functions:**

\*\*\*Basic Equation for an Exponential Function changing by a factor:

\*\*\*Basic Equation for an Exponential Function changing by a percent:

For the exponential function: y=10(3)x-5, where is the asymptote? By what factor does it change?

If an exponential has a base less than 1 does it increase or decrease?

**Quadratic Functions:**

Basic Equation for a Quadratic Function:

\*\*\*Vertex/AOS Formula:

How do you find the solutions (AKA \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a quadratic equation?

**Distance & Midpoint Formulas:**

\*\*\*Distance Formula (finds length of a line!):

\*\*\*Midpoint Formula:

**Inequalities:**

When solving an inequality, you must \_\_\_\_\_\_\_\_\_ the inequality sign any time you multiply or divide by a negative.

> means \_\_\_\_\_\_\_\_\_\_\_ and to shade \_\_\_\_\_\_\_\_\_\_\_\_\_ the line

< means \_\_\_\_\_\_\_\_\_\_\_ and the shade \_\_\_\_\_\_\_\_\_\_\_\_ the line

< or > means to use a \_\_\_\_\_\_\_\_\_\_ line

**Sequences:**

 \*\*\*Explicit Function Formula (Linear):

 \*\*\*Explicit Function Formula (Exponential) (write both!):

Arithmetic Sequences represent a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ relationship and change by a \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

Geometric Sequences represent a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ relationship and change by a \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

 Write a Recursive Formula with a common difference of -3:

 Write a Recursive Formula with a common ratio of 4: