Pre-Calculus First Semester Review Concepts

Distance Formula:

Midpoint Formula:

To solve a quadratic, try: 1. Factor

 2. Quadratic Formula

 3. Complete the Square

 4. Graphing

 5. Extract Square Roots

Complex Numbers:

 -Perform operations with complex numbers

Absolute Value Inequalities

 Ex:

 U

Quadratic Inequalities

 Ex:

 Put those zeros on a number line and test each interval.

Domain/Range

 Ex: Find domain:

 U

Vertical, Horizontal, Slant, and End Behavior Asymptotes

 Ex: Find all asymptotes:

Extrema, Increasing, Decreasing

 \*use x values for the intervals!

Even/Odd Functions

 Even: symmetric over the y-axis

 Odd: symmetric over the origin

 Ex: Prove is odd

Identify the graphs of the 12 Basic Functions

Parabolas

 Standard Form:

 Vertex Form:

 Vertex:

Long Division

Synthetic Division

Rational Zeros Theorem

 Ex: Find a list of the potential rational zeros:

Remainder and Factor Theorems

Composition of Functions

 Ex: Find .

 Now find .

 Since ,

Polynomial Inequalities

 Ex: Solve

 Put those zeros on a number line, and test each interval

Exponential Equations

 Ex: Solve:

 \*Make sure you remember to get the base by itself first!

Compound Interest Equations

Properties of Logarithms

Exponential Regression or Linear Regression on Calculator