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