**Accelerated PreCalculus**

**Possible Fall Performance Essay Topics**

1. Characteristics of Functions – understanding domain, range, asymptotes, end behavior of linear, quadratic, cubic, absolute value, square root, cube root, rational, and exponential functions
2. Graphs of Exponentials – know how to identify transformations, reflections, and other characteristics listed in #1
3. Rational Functions – be able to identify holes, vertical asymptotes, zeros, and slant asymptotes given a function
4. Exponential Word Problems – finding multiple variables including A, P, r, or t. Be able to set up a variety of growth/decay problems
5. Expand/Condense Logarithms – the relationship between addition/multiplication and subtraction/division as well as the role of exponents in both condensing and expanding. Be sure to note the use of radicals in each.
6. Rational Expressions – be able to multiply, divide, add, and subtract rational expressions. Understand undefined values of expressions.

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