Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Honors PreCalc Midterm Study Guide

Grosse Dates: 1st – 3/17, 2nd – 3/18, 3rd – 3/21

On the Honors PreCalculus midterm, all students should be able to…

**Basics:** use Box/FOIL method, combine like terms, and distribution throughout the entire exam

**Unit 1: Building Functions**

* 1. Find the Domain of a Function using restrictions
  2. Determine if whether an equation is a function of x
  3. Be able to use transformations of functions in equations
  4. Use compositions and combinations of functions, such as: fog and gof

1.8 Find the inverse of a function algebraically

**Unit 2: Polynomial and Rational Functions**

2.0 Factor ALL kinds of polynomials – factor by GROUPING very important (look on Google Classroom)

2.2 Use concepts of multiplicity and x intercepts to write equations from a graph (i.e. Bounce vs. Cross)

2.3 Use the Remainder Theorem, Long Division, & Synthetic Division

2.4 Solve for Polynomial Inequalities by using the Sign Chart method OR by graphing and finding intervals

2.5 Graph Rational Functions and find holes, vertical asymptotes, and horizontal asymptotes

2.6 Solve Rational Equations using common denominators

**Unit 3: Exponential, Logarithmic, and Logistic Functions**

3.2 Be able to SOLVE for all concepts of interest (simple, compounding, continuous compounding)

3.3 Use Logarithmic Functions & Properties and exponentiation to solve equations (product, power, division)

3.4 Solve log and exponent functions using inverses and exponentiation

3.5 Be able to identify asymptotes and limits on Logistic Functions

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