**Exponential/Logarithmic Functions: Unit Summary**

Things to know:

1. All seven exponent laws from grade 9/10 and how to apply them.
2. How to switch between radical form and rational exponent form.
3. How to perform operations on radicals; multiplying, dividing, simplify to mix radical form.
4. How to switch between exponential and logarithmic form.
5. How to split a logarithmic expression with the argument and base.
6. Find the inverse of an exponential or logarithmic function either graphically or algebraically; the inverse of a logarithmic function is an exponential function and vice versa.
7. How to graph a logarithmic function given a table of values for the parent function.
8. Know all three logarithmic rules and be able to apply them.
9. Be able to solve exponential equations using various methods; trial/error, log both sides, switch to log form, use a common base, etc.
10. Know how to solve a quadratic equation with an embedded exponential function; see note from day 7.
11. Know how to solve for either the base or argument of a logarithmic function; see note from day 8. Be sure to consider restrictions.
12. Have a general understanding of all of the application questions that were done as parts of lessons in this unit: Richter scale, Decibels, pH of solutions, etc...... equations will be provided for these.
13. Know how to assemble your own exponential equation for applications; growth/decay[$y=a(1+r)^{t}$ or$y=a(1-r)^{t}$], doubling time ($y=a(2)^{\frac{t}{d}}$), half-life($y=a(0.5)^{\frac{t}{h}}$), or compound interest (A= P(1 + i)n). Examples include the depreciation of a car's value, growth of city population, doubling of bacteria in a Petrie dish, etc....
14. Be able to compute an average rate of change or instantaneous rate of change for an application question; use correct units.

Extra Practice: pg 510#1ab, 2bd, 3b, 4-10, 11ac, 12, 13, 14ac,15, 16, 18, 19, 20, 22