Unit #6: Logs (Part II)/ Real World Applications

Content Area: **Mathematics**
Course(s): **PreCalc Trig A**
Time Period: **Semester 1**
Length: **2 weeks**
Status: **Published**

Standards

MA.F-LE.A.1c	Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
MA.F-LE.A.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
MA.F-LE.A.3	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
MA.F-LE.A.4	Understand the inverse relationship between exponents and logarithms. For exponential models, express as a logarithm the solution to ab to the ct power = d where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.
MA.F-LE.B.5	Interpret the parameters in a linear or exponential function in terms of a context.

Enduring Understandings

What good decisions can be made from understanding real world applications of logs.

Changing the structure of an expression allows solving a variety of problems.

Essential Questions

What procedures are needed to solve log equations?

How do interest formulas develop real world understandings of finances?

How does growth and decay provide valuable insight in decision making?

Knowledge and Skills

- Solve log equations using a graphing calculator.
- Solve compound and simple interest, growth and decay, and half-life word problems.

Transfer Goals

Recognize and solve practical or theoretical problems involving mathematics, including those for which the solution approach is not obvious, by using mathematical reasoning and strategic thinking.

Resources

1. Pre-Calculus with Limits - Aufmann
2. Trigonometry 6th edition - Lial
3. Classkick
4. Khan Academy
5. PurpleMath
6. KutaSoftware
7. CK-12
8. Quizlet
9. Albert I/O
10. Desmos
11. Problem Attic