Learning Targets

## Learning Targets

### Exponential Functions and Equations

### Lesson 1: Growing and Shrinking

* I understand how to calculate values that are changing exponentially.

### Lesson 2: Representations of Growth and Decay

* I understand that exponential functions change by equal factors over equal intervals.

### Lesson 3: Understanding Rational Inputs

* I can determine the value of exponential functions at non-whole number inputs.

### Lesson 4: Representing Functions at Rational Inputs

* I understand how to calculate a growth or decay factor of an exponential function for different input intervals.

### Lesson 5: Changes Over Rational Intervals

* I can explain why an exponential function changes by the same factor over equal intervals, even when those intervals are not whole numbers.

### Lesson 6: Writing Equations for Exponential Functions

* I can write equations for exponential functions from two input-output pairs, even when the input pairs are not one unit apart.

### Lesson 7: Interpreting and Using Exponential Functions

* I can use the half-life of elements to calculate how much of the element remains over time.

### Lesson 8: Unknown Exponents

* I can approximate the value of unknown exponents.

### Lesson 9: What is a Logarithm?

* I understand that a logarithm is a way to represent an exponent in an exponential equation.

### Lesson 10: Interpreting and Writing Logarithmic Equations

* I understand how to evaluate a logarithmic expression.

### Lesson 11: Evaluating Logarithmic Expressions

* I can use known values of logarithms to estimate the value of other logarithms.
* I can use technology to determine the value of a logarithm.

### Lesson 12: The Number $e$

* I know that $e$ is an irrational constant, like $π$, that has a value of about 2.718.

### Lesson 13: Exponential Functions with Base $e$

* I understand that $e$ is used in exponential models when we assume the growth rate is applied at every moment.

### Lesson 14: Solving Exponential Equations

* I can solve simple exponential equations using logarithms.

### Lesson 15: Using Graphs and Logarithms to Solve Problems (Part 1)

* I can solve exponential equations using logs or by graphing

### Lesson 16: Using Graphs and Logarithms to Solve Problems (Part 2)

* I can calculate where two exponential graphs meet using logarithms.
* I can interpret the intersection of the graphs of two exponential functions in context.

### Lesson 17: Logarithmic Functions

* I can interpret logarithmic functions in context.

### Lesson 18: Applications of Logarithmic Functions

* I understand how logarithms are used to measure things like acidity and the intensity of earthquakes.



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