

Do: Reflect and turn in! Happy Friday:)

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: <u>2/19</u> Topic: <u>No School</u>	0 1 2	
Tuesday Date: <u>2/20</u> Topic: <u>Exponents and Logarithms</u>	0 1 2	
Wednesday Date: <u>2/21</u> Topic: <u>Logarithm Properties</u>	0 1 2	
Thursday Date: <u>2/22</u> Topic: <u>Project title, table, and graph</u>	0 1 2	
Friday Date: <u>2/22</u> Topic: <u>Equation, justification, verification</u>	0 1 2	

Class Plan:

1. Review checklist, Rubrics
2. Worktime: Exponential Project

Step 1: Data Intro - Table - Graph

- ___ Project Title
- ___ Organize data in a table
- ___ Display data using a scatterplot

**Begin
Wednesday**

Step 2: Equation $y = a(b)^x$ $b = (1+r)^x$ OR $b = (1-r)^x$

- ___ Calculate the constant multipliers between each data value
- ___ Identify the starting value ___ Justify your starting value
- ___ Identify the constant multiplier ___ Justify your constant multiplier
- ___ Write Equation
- ___ Use the collected data values and verify the equation using *logs*.
 $x = a^y \Leftrightarrow y = \log_a(x)$
- ___ Write a statement commenting on the validity of the equation

Step 3: Analysis (Using Table-Graph-Equation)

- Interpret the real-life meanings of your equation:
- ___ Starting value ___ Constant multiplier
 - ___ r (rate of growth / decay) What % is the data growing/decaying ?
 - ___ Dependent variable (y -value) ___ Independent variable (x -value)
 - ___ Use *logarithms* to make a prediction *outside* the collected data set.
 ___ Discuss the accuracy of the prediction
 - ___ Use *logarithms* to make a prediction *inside* the collected data set.
 ___ Discuss the accuracy of the prediction
 - ___ Write a conclusion of the project.

**Project
checklist**

(Finish step 1)

**Step 2:
Thursday**

**Step 3:
Friday**

RUBRIC Criterion B: Investigations

-Calculate multiplier

-Identify and defend the multiplier and starting value

-Verify equation using 2 data pairs, LOGS!

7	The student is able to: <ul style="list-style-type: none">• Select and apply mathematical problem-solving techniques to discover complex patterns		<ul style="list-style-type: none">• Detailed work is shown to generate the equation model.• Parts of the equation are identified and justified correctly.
8	<ul style="list-style-type: none">• Describe patterns as general rules consistent with correct findings• Verify and justify these general rules.		<ul style="list-style-type: none">• Equation is verified using logs and at least two data pairs from original data set.

1 w/ exp

1 w/ x-value logs

RUBRIC: Criterion C: Communication

- Models: table, graph, equation
- Interpretations
- Predictions, LOGS for x-value!
- Conclusion
- Organized, neat work

$$y = 16(1.5)^x$$

$$(1095), 00 = 16(1.5)^x$$

7	The student is able to: <ul style="list-style-type: none">• Consistently use appropriate mathematical language• Use appropriate forms of mathematical representation to consistently present information correctly.• Move effectively between different forms of mathematical representation.	<ul style="list-style-type: none">• Correct table, graph, and equation.• Equation is interpreted: Y-value, X-value, multiplier rate, starting value.• Multiple predictions are made using values from <i>within</i> and <i>outside</i> the given data range.<ul style="list-style-type: none">-Logarithms are used to find x-values.
8	<ul style="list-style-type: none">• Communicate through lines of reasoning that are complete, coherent, and concise.• Present work that is consistently organized using a logical structure.	<ul style="list-style-type: none">• Conclusion is complete, concise and coherent.• The piece of work is organized and neat.

Worktime: Exponential Project

***Use rubric as checklist**

7	The student is able to:				
8	<ul style="list-style-type: none">Select and apply mathematical problem-solving techniques to discover complex patternsDescribe patterns as general rules consistent with correct findingsVerify and justify these general rules.			<ul style="list-style-type: none">Detailed work is shown to generate the equation model.Parts of the equation are identified and justified correctly.Equation is verified using logs and at least two data pairs from original data set.	

7	The student is able to:				
8	<ul style="list-style-type: none">Consistently use appropriate mathematical languageUse appropriate forms of mathematical representation to consistently present information correctly.Move effectively between different forms of mathematical representation.Communicate through lines of reasoning that are complete, coherent, and concise.Present work that is consistently organized using a logical structure.			<ul style="list-style-type: none">Correct table, graph, and equation.Equation is interpreted: Y-value, X-value, multiplier, rate, starting value.Multiple predictions are made using values from <i>within</i> and <i>outside</i> the given data range.<ul style="list-style-type: none">-Logarithms are used to find x-values.Conclusion is complete, concise and coherent.The piece of work is organized and neat.	

Exercises...

Complete Project by Monday 2-26

Then you can focus on studying
for the Unit 5 Test (March 2nd)