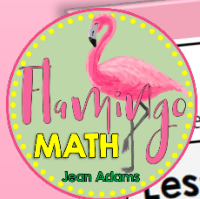


Algebra 2 Honors

Exponential & Logarithmic Functions



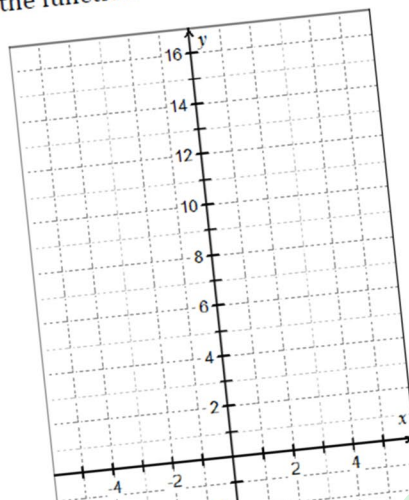
Lesson 7.1: Exploring Exponential Models

Warm-Up #1

1. Complete the table of values.

x	$2(0.5)^x$	y
-3		
-2		
-1		
0		
1		

2. Graph the function from your table.



Warm-Ups

Completely Editable

7

ALGEBRA 2 CURRICULUM

Scope and Sequence

Unit 7: Exponential & Logarithmic Functions

Lesson	Skills & Learning Objectives
[7.1] Exploring Exponential Models	☐ Describe, analyze, and model exponential growth ☐ Describe analyze, and model exponential decay
[7.2] Properties of Exponential Functions	☐ Understand the characteristics and effects of constants in the exponential model $y = ab^{kx}$ ☐ Use e as a base in relations and functions
[7.3] Logarithmic Functions as Inverses	☐ Write logarithmic functions ☐ Analyze and evaluate logarithmic functions ☐ Graph logarithmic functions
[7.4] Properties of Logarithms	☐ Identify the properties of logarithms ☐ Use properties of logarithms
[7.5] Exponential and Logarithmic Equations	☐ Solve exponential equations ☐ Solve logarithmic equations
[7.6] Natural Logarithms	☐ Evaluate natural logarithmic expressions ☐ Use natural logarithms to solve equations

Name _____ Date _____ Period _____

Lesson 7.2: Properties of Exponential Functions

Warm-Up #1

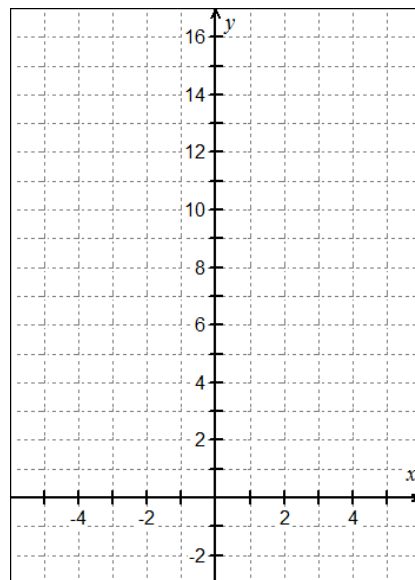
Problems 1-2, use the function:

$$y = 24(1.75)^x$$

1. Does the function represent exponential growth or decay? What is the growth or decay factor?

2. What is the y-intercept?

3. Graph the function as a transformation of the parent function. $y = 2^{x+2}$



Name _____ Date _____ Period _____

Lesson 7.2: Properties of Exponential Functions

Warm-Up #2

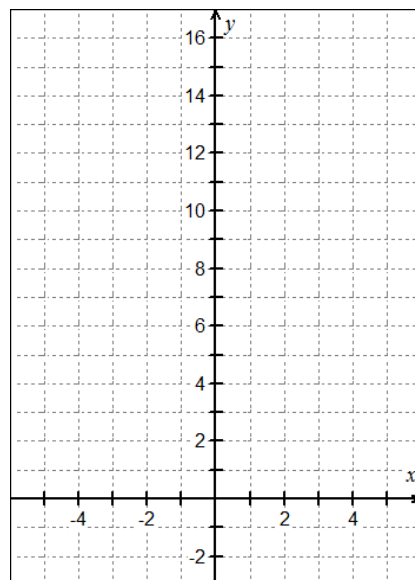
Problems 1-2, use the function:

$$y = 3\left(\frac{2}{5}\right)^x$$

1. Does the function represent exponential growth or decay? What is the growth or decay factor?

2. What is the y-intercept?

3. Graph the function as a transformation of the parent function. $y = 2^{x-1}$



Name _____ Date _____ Period _____

Lesson 7.4: Properties of Logarithms

Warm-Up #1

1. Write the expression as a single logarithm

$$\log_4 16^3$$

2. Write the expression as a single logarithm

$$\log_3 24 + \log_3 6$$

3. Expand the logarithm, simplify if possible.

$$\log_6 36x$$

4. Expand the logarithm, simplify if possible.

$$\log_2 \left(\frac{8}{5} \right)$$

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Name _____ Date _____ Period _____

Lesson 7.4: Properties of Logarithms

Warm-Up #2

1. Write the expression as a single logarithm

$$\log_4 24^2$$

2. Write the expression as a single logarithm

$$\log_3 25 + \log_3 5$$

3. Expand the logarithm, simplify if possible.

$$\log_3 27x$$

4. Expand the logarithm, simplify if possible.

$$\log_2 \left(\frac{16}{7} \right)$$

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Name _____ Date _____ Period _____

Lesson 7.6: Natural Logarithms

Warm-Up #1

1. Write the expression as a single natural logarithm
 $\ln 16 - \ln 8$

2. Write the expression as a single natural logarithm
 $2 \ln x + 3 \ln y$

3. Solve the equation. Round answer to the nearest hundredth. $4 \ln x = -2$

4. Use natural logarithms to solve the equation. Round answer to the nearest hundredth.
 $e^x = 15$

Name _____ Date _____ Period _____

Lesson 7.6: Natural Logarithms

Warm-Up #2

1. Write the expression as a single natural logarithm
 $\ln 12 - \ln 4$

2. Write the expression as a single natural logarithm
 $3 \ln x + 4 \ln y$

3. Solve the equation. Round answer to the nearest hundredth. $2 \ln x = 6$

4. Use natural logarithms to solve the equation. Round answer to the nearest hundredth.
 $e^x = 18$