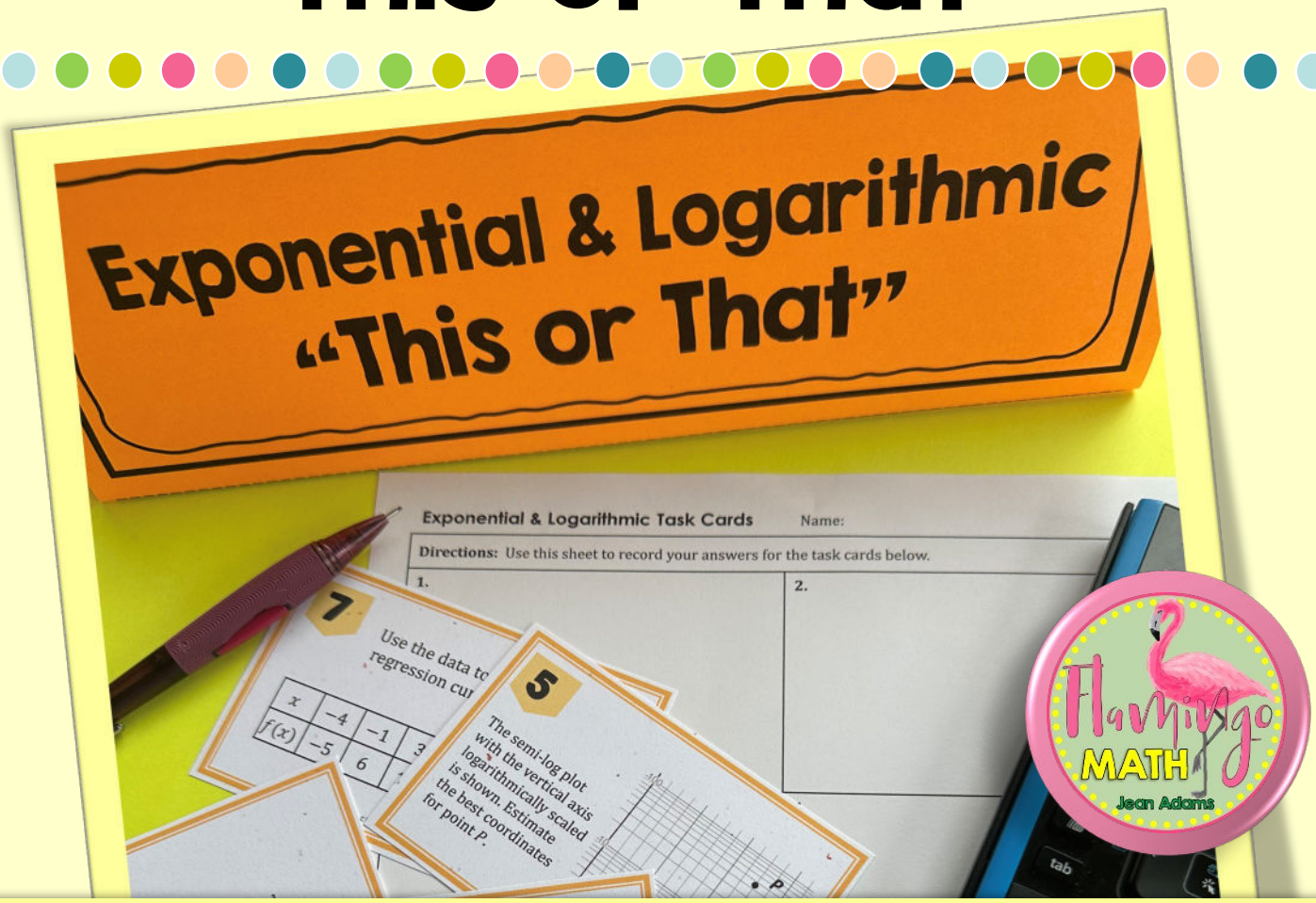
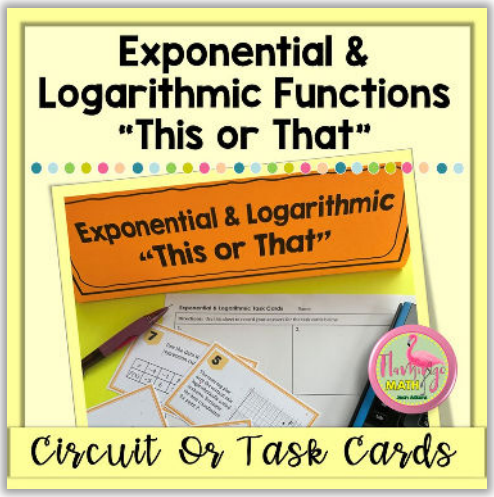
Exponential & Logarithmic Functions "This or That"



Circuit Or Task Cards

Exponential & Logarithmic Functions



KEY CONCEPTS/TOPICS:

★ Find nth terms of geometric sequence
★ Find average rates of change of exponential functions
★ Solve both exponential and logarithmic equations
★ Find inverse function values
★ Evaluate compositions of functions
★ Evaluate logarithmic expressions
★ Model data using regression equations

Product Overview

Exponential & Logarithmic Functions Circuit-Style Training

This resource is designed to help your AP Precalculus students gain proficiency in their ability to use the language of Exponential and Logarithmic Functions in a scavenger-hunt type circuit activity.

This is a self-checking assignment in a "Circuit-style" training. Students start their brain training in Cell #1, then search for the answer. They label that block as Cell #2 and continue to work until they complete the entire exercise for the Brain Training Activity.

There are 16 question stems in the self-checking circuit.

COLLEGE BOARD STANDARDS ALIGNMENT:
Topic 2.1: Change in Arithmetic and Geometric Sequences
Topic 2.2: Change in Linear and Exponential Functions
Topic 2.5: Exponential Function Context and Data Modeling
Topic 2.7: Composition of Functions
Topic 2.8: Inverse Functions
Topic 2.9: Logarithmic Expressions
Topic 2;!3 Exponential and Logarithmic Equations and Inequalities
Topic 2.14: Logarithmic Function Context and Data Modeling

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Exponential & Logarithmic "This or That"

Copy this "table tent" on a colorful piece of cardstock. Then fold the tent lengthwise along the dotted lines. Tape the folded "flap" to secure a triangular shaped tent for the table.

Tape this edge to the opposite side to create a table tent

Fold

Exponential & Logarithmic "This or That"

Differentiation Task Cards Name:

Directions: Use this sheet to record your answers for the task cards below.

1.	2.
3.	4.
5.	6.
7.	8.

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1

Find t... $t = 0$ ... for $f(t) =$ ...

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2

...he third term of a geometric sequence is 28. The 7th term value is 141.75. Find the 12th term in the sequence.

$$g_n = g_k \cdot r^{(n-k)}$$

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3

What is the exponential regression model for this set of data?

x	-6	-2	1	3
$f(x)$	-5	6	17	19

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4

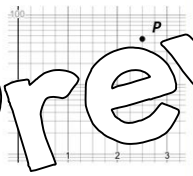
Solve the inequality for $f(x) \geq 2$ given,

$$f(x) = \log_2(x^2 + x - 6) - \log_2(2x - 1)$$

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5

The semi-log plot with the ... logarithm... is shown. ... the best co... for point P.



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6

...ven... ...ssion model, $f(...) = 44.833\,(0.471)^x$, when is $f(x) = 15$?

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7

Use the data to find a quadratic regression curve.

x	-4	-1	3	7	10	15
$f(x)$	-5	6	17	15	11	-1

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8

In a particular data set it is given that $f(10) = 11$. Find the error in the prediction if the quadratic regression model is

$$y = -0.2150x^2 + 2.5056x + 8.9769$$

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9

x	-4	-1	3	7	10	15
$f(x)$	-5	6	17	19	21	30

$$g(x) = \frac{2x^2 - 2.1x + 3}{x^2 - 3x + 1}$$

The table is a continuous, increasing function $f(x)$.
Find the value of $g\left(f^{-1}(17)\right)$.

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10

Evaluate: $\log_{14} 71$

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11

Let $f(x) = \log_2 x$ and $g(x) = x^3 -$ ...
Find $(f \circ g)^{-1}(4...$

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12

...in... ...e solu... ...n to ... ...equation.

$$\log_{...} = \log_{0.04}(x + 1)$$

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13

Solve for x: $0.5e^{\frac{x}{2}} = 8$

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14

Solve for x:

$$2 - \ln(x + 7) = \ln(x - 3)$$

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15

Bill has $200,000 in his account. The account accrues interest continuously at a rate of 3.5%. How many years will it take for his account to have at least $500,000?

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16

What is the regression model for this data?

x	1	3	8	26
$f(x)$	4	11	19	26

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Preview
Preview
Preview
Preview
Preview
Preview

"This or That" Activity: Circuit or Task Cards

