

keep scrolling to get
a sneak peek!

Short one-page practice worksheets built to reinforce **exponential & logarithmic function** skills right after you teach the lesson. Each one targets one topic at a time, so your students get focused, low-pressure practice, and you get a quick read on who's ready to move on.

EXPONENTIAL & LOGARITHMIC FUNCTIONS

Quick Practice Worksheets

The image shows three overlapping worksheet pages. The top page is titled 'EXPONENTIAL & LOGARITHMIC FUNCTIONS Quick Practice Worksheets'. The middle page is titled 'TRANSFORMATIONS OF LOGARITHMIC FUNCTIONS' and contains a table with functions and their transformations. The bottom page is titled 'EXPONENTIAL FUNCTION' and contains word problems about depreciation and growth.

ANSWER KEY

WRITING EXPONENTIAL EQUATIONS

2. (3, 5)

$5 = a \cdot b^3$
 $5 = 40b^3$
 $40 = 5b^3$
 $8 = b^3$
 $2 = b$

$a = \frac{5}{8}$
 $a = 2$

$y = 2(3)^x$

TRANSFORMATIONS OF LOGARITHMIC FUNCTIONS

Directions: Identify the transformation(s) of each logarithmic function.

Function	Transformation(s)
1. $g(x) = \log x + 5$	
2. $g(x) = \log(x - 3)$	
3. $g(x) = -\log(4x)$	
4. $g(x) = \log(x + 5) - 6$	
5. $g(x) = \log(-x) + 7$	

Directions: Graph each logarithmic function and identify the X-intercept and Asymptote.

6. $k(x) = -\log_3 x + 1$	7. $h(x) = 2\log_2(x + 1)$
X-intercept:	X-intercept:
Asymptote:	Asymptote:

EXPONENTIAL FUNCTION

Directions: Solve each problem. Round your answer to the nearest cent.

1. A laptop purchased for \$1,200. Its value depreciates by 12% each year. What will the laptop be worth after 4 years?

$P = \$1200$ $r = 0.12$ $t = 4$

$A = 1200(1 - 0.12)^4$
 $A = 1200(0.88)^4$
 $A = 719.63$

The laptop will be worth about \$719.63 after 4 years.

3. An antique clock is purchased for \$300 and increases in value by 4% each year. How much is the clock worth 30 months after it was purchased?

$P = \$300$ $r = 0.04$ $t = \frac{30}{12} = \frac{5}{2}$

$A = 300(1 + 0.04)^{5/2}$
 $A = 300(1.04)^{5/2}$
 $A = \$330.91$



Print & Go Practice. Answer Key Included

© Malia Rivera, 2026

why do you need this?



Short & Focused: Each worksheet targets one skill, so there's no overwhelm.

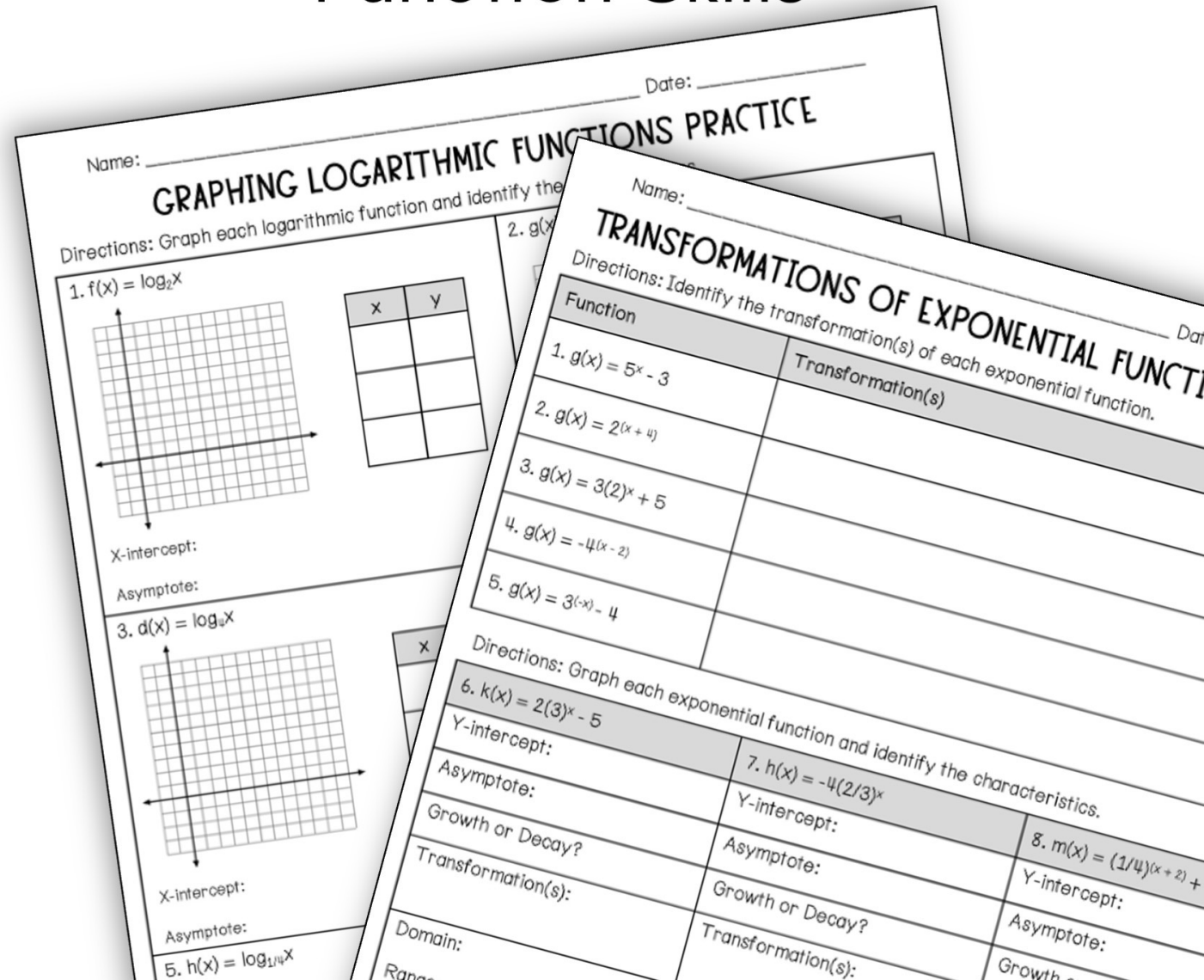


No Prep: Ready to print the moment you need them.

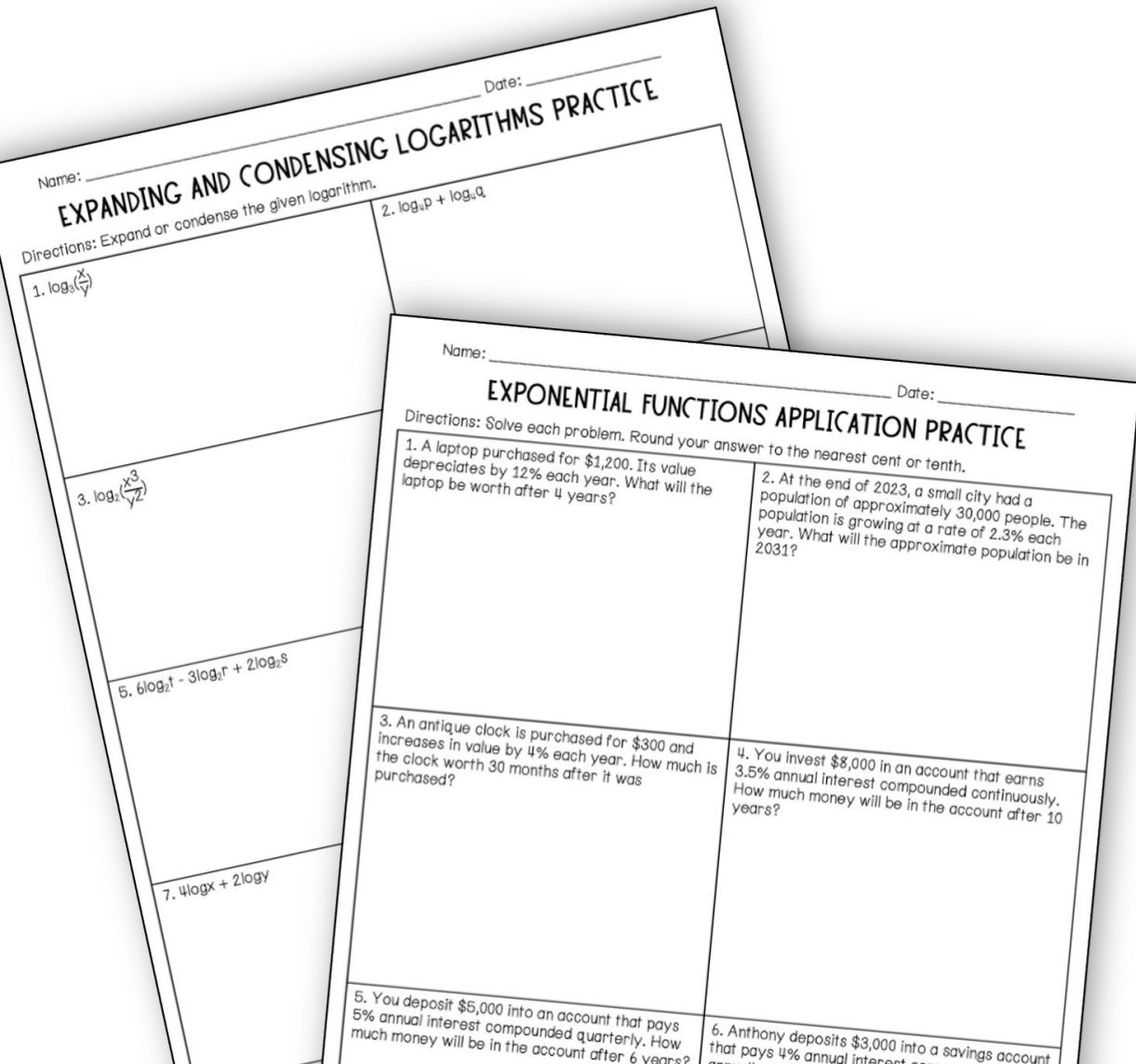


Flexible Use: Great for independent practice, a station, or a quick check after notes.

Exponential & Logarithmic Function Skills



Exponential & Logarithm Practice Worksheets *includes:*



✓ 15 one pager worksheets

✓ Answer key for each

✓ Printable PDF format

how to use these resources

Use these worksheets right after teaching each topic to check for understanding, or throughout the unit as independent practice, a station, or a quick review day activity.

They are perfect for sup plans too!

ANSWER KEY Date: _____

EXPONENTIAL & LOGARITHMIC EQUATIONS PRACTICE

Directions: Solve each equation. Find the exact and approximate solution. Check for extraneous solutions.

1. $\log_6 \left(\frac{49}{6} \right) = \log_6 \left(\frac{25}{3} \right)$
 $x \approx 2.059$

2. $5e^{2x} = 45$
 $\ln e^{2x} = \ln 9$
 $2x = \ln 9$
exact: $x = \frac{\ln 9}{2}$
approx: $x \approx 1.099$

3. $\ln(3x - 2) = 4$
 $3x - 2 = e^4$
 $3x = e^4 + 2$
exact: $x = \frac{e^4 + 2}{3}$
approx: $x \approx 10.14$

4. $\log_5(x - 2) = -2$
 $x - 2 = 5^{-2}$
 $x = 2 + \frac{1}{25}$
exact: $x = 2 + \frac{1}{25}$
approx: $x \approx 2.04$

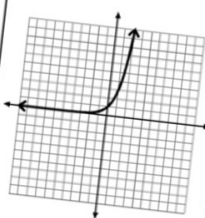
5. $10^{2x-3} = 2^{x+4}$
 $(2x-3)\log 10 = (x+4)\log 2$
 $2x-3 = x\log 2 + 4\log 2$
 $-x\log 2 - 3 = 4\log 2$
 $2x - x\log 2 - 3 = 4\log 2$
 $x(2 - \log 2) = 4\log 2 + 3$
exact: $x = \frac{4\log 2 + 3}{2 - \log 2}$
approx: $x \approx 1.561$

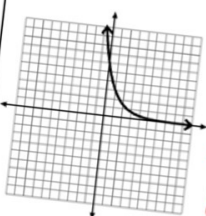
6. $3^x + 2 = 50$
 $\log_3 50 = x + 2$
exact: $x = \log_3 50 - 2$
approx: $x \approx 1.561$

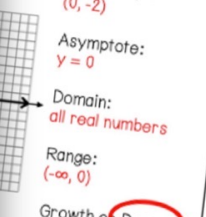
ANSWER KEY Name: _____ Date: _____

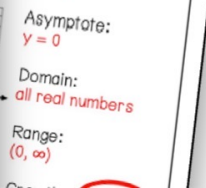
CHARACTERISTICS OF EXPONENTIAL FUNCTIONS PRACTICE

Directions: Identify the characteristics of each exponential function from its graph.

1. 
Y-intercept: (0, 1)
Asymptote: $y = 0$
Domain: all real numbers
Range: $(0, \infty)$
Growth or Decay? **Growth**

2. 
Y-intercept: (0, 6)
Asymptote: $y = 0$
Domain: all real numbers
Range: $(0, \infty)$
Growth or Decay? **Decay**

3. 
Y-intercept: (0, 1)
Asymptote: $y = 0$
Domain: all real numbers
Range: $(0, \infty)$
Growth or Decay? **Growth**

4. 
Y-intercept: (0, 8)
Asymptote: $y = 0$
Domain: all real numbers
Range: $(0, \infty)$
Growth or Decay? **Decay**

ANSWER KEY Name: _____ Date: _____

EXPANDING AND CONDENSING LOGARITHMS PRACTICE

Directions: Expand or condense the given logarithm.

1. $\log_3 \left(\frac{x}{y} \right)$
 $\log_3 x - \log_3 y$

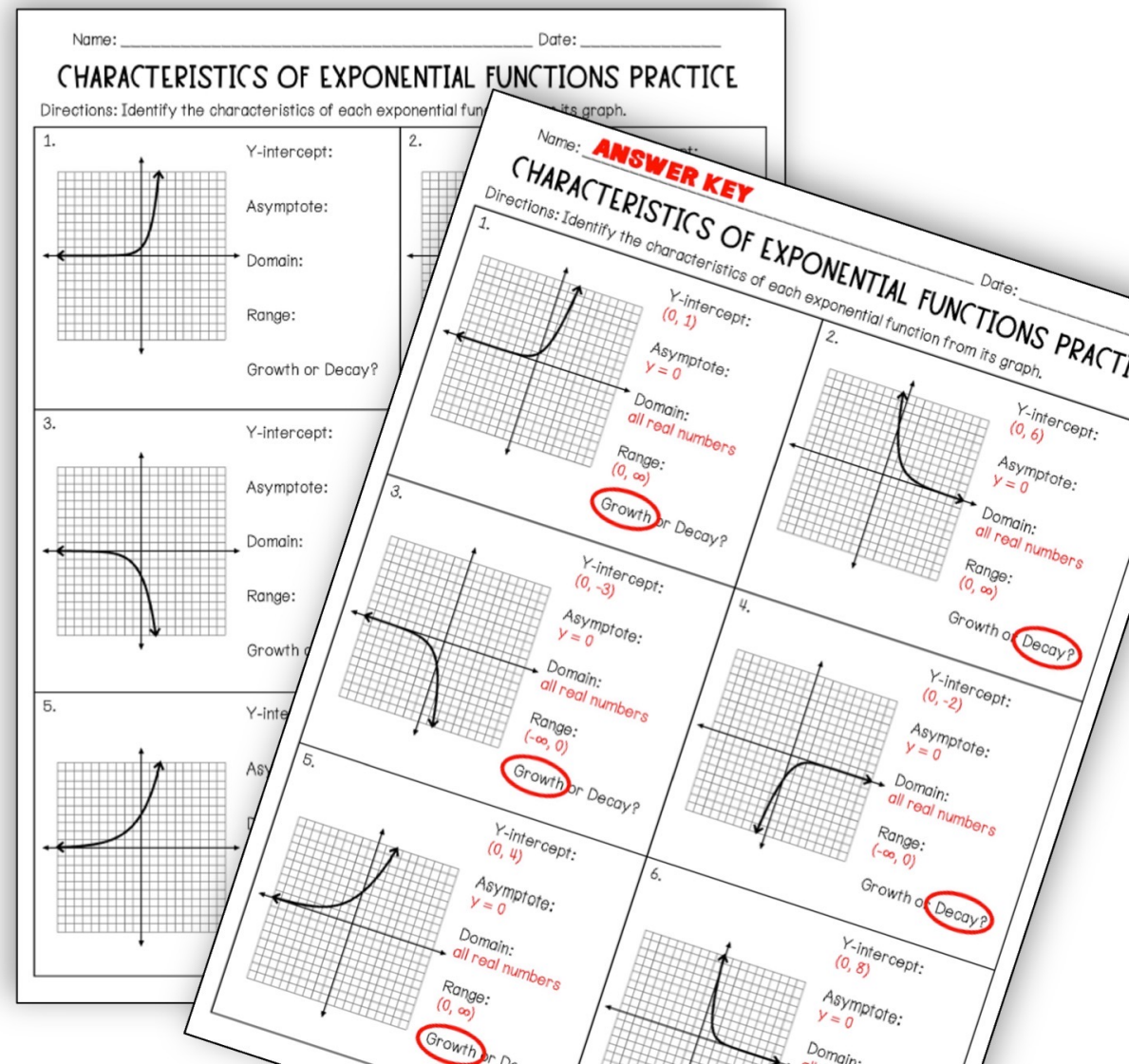
2. $\log_4 p + \log_4 q$
 $\log_4 pq$

3. $\log_2 \left(\frac{x^3}{y^2} \right)$
 $3\log_2 x - 2\log_2 y$

4. $\log_7(abc)$
 $\log_7 a + \log_7 b + \log_7 c$

Characteristics of Exponentials Practice Worksheet

Students identify characteristics of exponential functions given the graph. They will need to identify the y-intercept, asymptote, domain, range, and if it represents growth or decay.



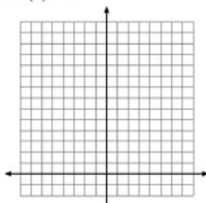
Graphing Exponential Functions Practice Worksheet

Name: _____ Date: _____

GRAPHING EXPONENTIAL FUNCTIONS PRACTICE

Directions: Graph each exponential function and identify the characteristics.

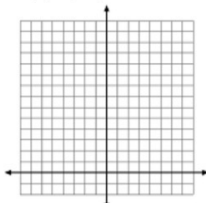
1. $f(x) = 2^x$



x	y
-1	
0	
1	

Y-intercept: _____
Asymptote: _____

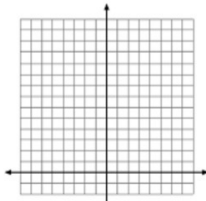
3. $d(x) = (2/3)^x$



x	y
-1	
0	
1	

Y-intercept: _____
Asymptote: _____

5. $h(x) = 2(3)^x$



x	y
-1	
0	
1	

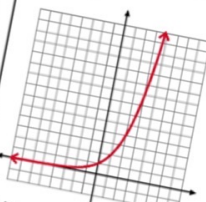
Y-intercept: _____
Asymptote: _____

Name: **ANSWER KEY** Date: _____

GRAPHING EXPONENTIAL FUNCTIONS PRACTICE

Directions: Graph each exponential function and identify the characteristics.

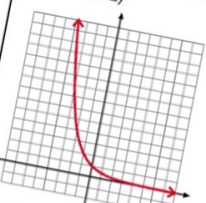
1. $f(x) = 2^x$



x	y
-1	1/2
0	1
1	2

Y-intercept: (0, 1)
Asymptote: $y = 0$

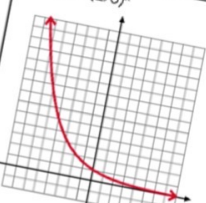
2. $g(x) = (1/2)^x$



x	y
-1	2
0	1
1	1/2

Y-intercept: (0, 1)
Asymptote: $y = 0$

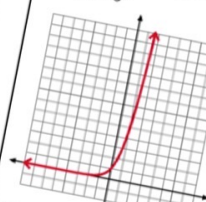
3. $d(x) = (2/3)^x$



x	y
-1	3/2
0	1
1	2/3

Y-intercept: (0, 1)
Asymptote: $y = 0$

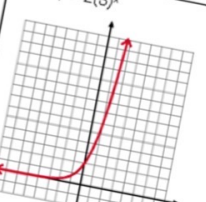
4. $m(x) = 5^x$



x	y
-1	1/5
0	1
1	5

Y-intercept: (0, 1)
Asymptote: $y = 0$

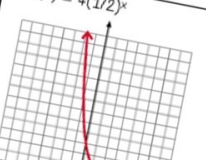
5. $h(x) = 2(3)^x$



x	y
-1	2/3
0	2
1	6

Y-intercept: (0, 2)
Asymptote: $y = 0$

6. $k(x) = 4(1/2)^x$



x	y
-1	8
0	4
1	2

Students graph exponential functions given the equation. There are no transformations applied so that students practice graphing and noticing patterns between equations, graphs, and tables.

Transformations of Exponential Functions Practice Worksheet

Students identify and graph transformations of exponential functions given the equation.

Image showing two overlapping worksheets titled "TRANSFORMATIONS OF EXPONENTIAL FUNCTIONS PRACTICE".

The top worksheet is the "ANSWER KEY" version, showing the following transformations:

Function	Transformation(s)
1. $g(x) = 5^x - 3$	Vertical shift down 3 units.
2. $g(x) = 2^{(x+4)}$	Horizontal shift left 4 units.
3. $g(x) = 3(2)^x + 5$	Vertical stretch by a factor of 3. Vertical shift up 5 units.
4. $g(x) = -4(x-2)$	Reflection over the x-axis. Horizontal shift right 2 units.
5. $g(x) = 3^{(-x)} - 4$	Reflection over the y-axis. Vertical shift down 4 units.

The bottom worksheet is the practice version, showing the following functions and their characteristics:

Function	Transformation(s)	Y-intercept	Asymptote	Growth or Decay?	Domain	Range
6. $k(x) = 2(3)^x - 5$	Vertical stretch by a factor of 2, Vertical shift down by 5 units.	$(0, -5)$	$y = -5$	Growth	all real numbers	$(-5, \infty)$
7. $h(x) = -4(2/3)^x$	Reflection over x-axis, Vertical stretch by a factor of 4.	$(0, -4)$	$y = 0$	Decay	all real numbers	$(-\infty, 0)$
8. $m(x) = (1/4)^{(x+2)} + 3$	Horizontal shift left 2 units, Vertical shift up by 3 units.	$(-2, 3)$	$y = 3$	Decay	all real numbers	$(3, \infty)$

Graphs are shown for functions 6, 7, and 8.

Writing Exponential Equations Practice Worksheet

Students will write the exponential equation given two points on the curve.

Name: _____ Date: _____

WRITING EXPONENTIAL EQUATIONS PRACTICE

Directions: Write an exponential function that passes through the given points.

1. (1, 6) & (4, 162)

3. (0, 40) & (3, 5)

5. (2, 3) & (5, 24)

7. (1, 4) & (3, 36)

Name: _____ Date: _____
ANSWER KEY

WRITING EXPONENTIAL EQUATIONS PRACTICE

Directions: Write an exponential function that passes through the given points.

1. (1, 6) & (4, 162)

$$\begin{aligned} 6 &= ab^1 & 162 &= ab^4 \\ \frac{162}{6} &= \left(\frac{6}{6}\right)b^3 & & \\ 27 &= b^3 & a &= \frac{6}{3} \\ 3 &= b & a &= 2 \\ \boxed{y = 2(3)^x} & & & \end{aligned}$$

2. (2, 8) & (4, 128)

$$\begin{aligned} 8 &= ab^2 & 128 &= ab^4 \\ \frac{128}{8} &= \left(\frac{8}{8}\right)b^2 & & \\ 16 &= b^2 & a &= \frac{8}{4^2} \\ 4 &= b & a &= \frac{8}{16} = \frac{1}{2} \\ \boxed{y = \left(\frac{1}{2}\right)(4)^x} & & & \end{aligned}$$

3. (0, 40) & (3, 5)

$$\begin{aligned} 40 &= ab^0 & 5 &= ab^3 \\ a &= 40 & 5 &= 40b^3 \\ \frac{5}{40} &= \frac{1}{8} = b^3 & & \\ \sqrt[3]{\frac{1}{8}} &= \sqrt[3]{b^3} & & \\ \frac{1}{2} &= b & & \\ \boxed{y = 40\left(\frac{1}{2}\right)^x} & & & \end{aligned}$$

4. (1, 54) & (4, 16)

$$\begin{aligned} 54 &= ab^1 & 16 &= ab^4 \\ \frac{16}{54} &= \left(\frac{54}{54}\right)b^3 & & \\ \frac{8}{27} &= b^3 & a &= \frac{54}{2^3} \\ \frac{2}{3} &= b & a &= 81 \\ \boxed{y = 81\left(\frac{2}{3}\right)^x} & & & \end{aligned}$$

5. (2, 3) & (5, 24)

$$\begin{aligned} 3 &= ab^2 & 24 &= ab^5 \\ \frac{24}{3} &= \left(\frac{3}{3}\right)b^3 & & \\ 8 &= b^3 & a &= \frac{3}{2^2} \\ \sqrt[3]{8} &= \sqrt[3]{b^3} & a &= \frac{3}{4} \\ 2 &= b & & \\ \boxed{y = \left(\frac{3}{4}\right)(2)^x} & & & \end{aligned}$$

6. (1, 18) & (3, 2)

$$\begin{aligned} 18 &= ab^1 & 2 &= ab^3 \\ \frac{2}{18} &= \left(\frac{18}{18}\right)b^2 & & \\ \frac{1}{9} &= b^2 & a &= \frac{18}{1^2} \\ \sqrt{\frac{1}{9}} &= \sqrt{b^2} & a &= 18 \\ \frac{1}{3} &= b & & \\ \boxed{y = 18\left(\frac{1}{3}\right)^x} & & & \end{aligned}$$

7. (1, 4) & (3, 36)

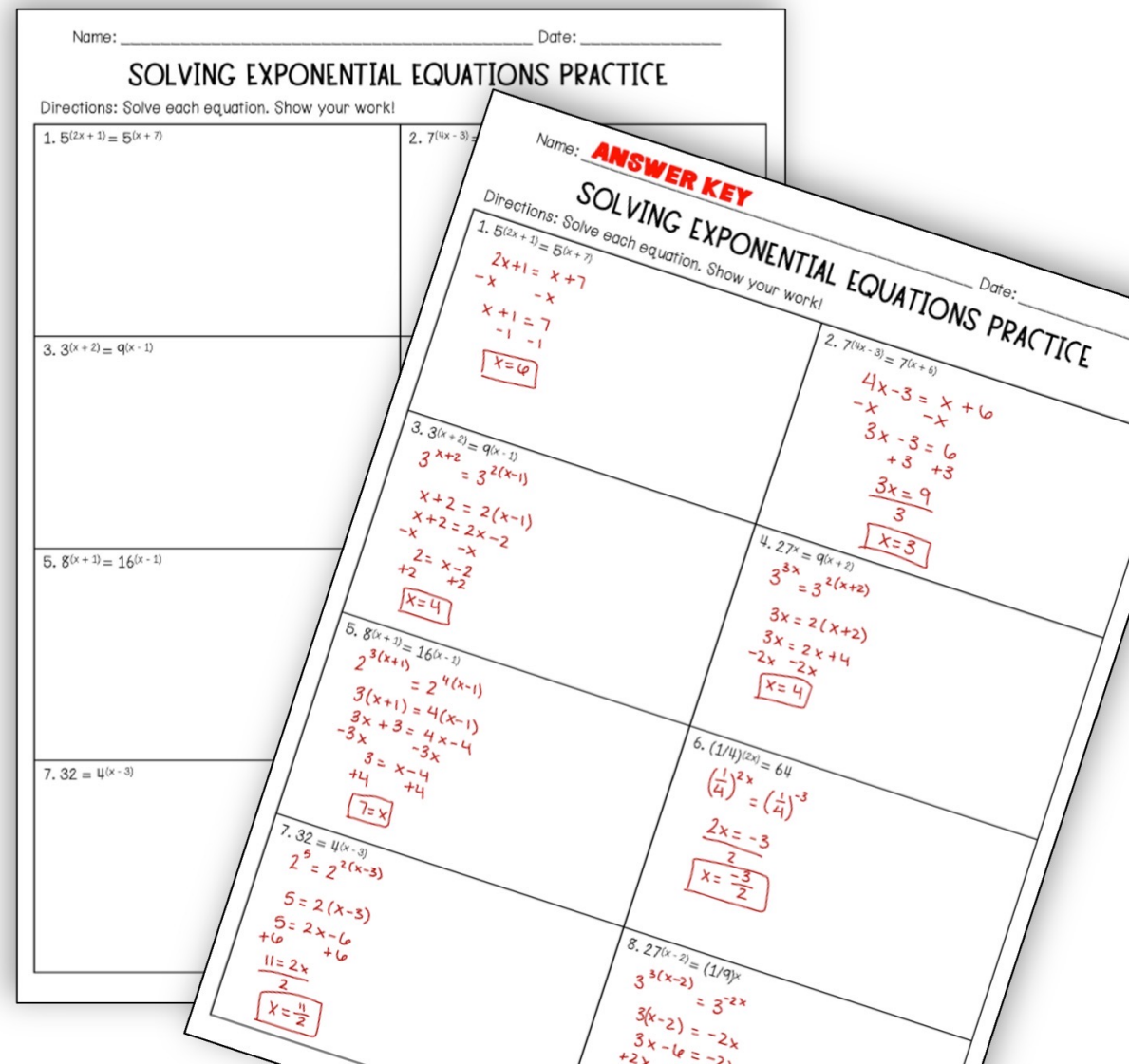
$$\begin{aligned} 4 &= ab^1 & 36 &= ab^3 \\ \frac{36}{4} &= \left(\frac{4}{4}\right)b^2 & & \\ 9 &= b^2 & a &= \frac{4}{3} \\ \sqrt{9} &= \sqrt{b^2} & & \\ 3 &= b & & \\ \boxed{y = \left(\frac{4}{3}\right)(3)^x} & & & \end{aligned}$$

8. (2, 10) & (4, 40)

$$\begin{aligned} 10 &= ab^2 & 40 &= ab^4 \\ \frac{40}{10} &= \left(\frac{10}{10}\right)b^2 & & \\ 4 &= b^2 & & \\ 2 &= b & & \\ \boxed{y = 10(2)^x} & & & \end{aligned}$$

Solving Exponential Equations Practice Worksheet

Students will solve equations that involve exponential functions. Some questions require students to change to a common base before solving.



Logarithm Basics Practice Worksheet

Students work through rewriting and evaluating logarithms using basic log properties.

Name: _____ Date: _____

LOGARITHM BASICS PRACTICE

Directions: Rewrite the equation in its opposite form.

1. $5^3 = 125$	2. $\log_2 32 = 5$	3. $\log_{1/3} 9 = -2$
----------------	--------------------	------------------------

Directions: Evaluate using a calculator. Round to the nearest thousandth.

4. $\log 45$	5. $\log_6 12$
--------------	----------------

Directions: Evaluate each logarithm without a calculator.

6. $\log_5 125$	7. $\log_{1/2} 16$	8. $\log_4 1/16$
-----------------	--------------------	------------------

ANSWER KEY

Name: _____ Date: _____

LOGARITHM BASICS PRACTICE

Directions: Rewrite the equation in its opposite form.

1. $5^3 = 125$ $\log_5 125 = 3$	2. $\log_2 32 = 5$ $2^5 = 32$	3. $\log_{1/3} 9 = -2$ $(1/3)^{-2} = 9$
------------------------------------	----------------------------------	--

Directions: Evaluate using a calculator. Round to the nearest thousandth.

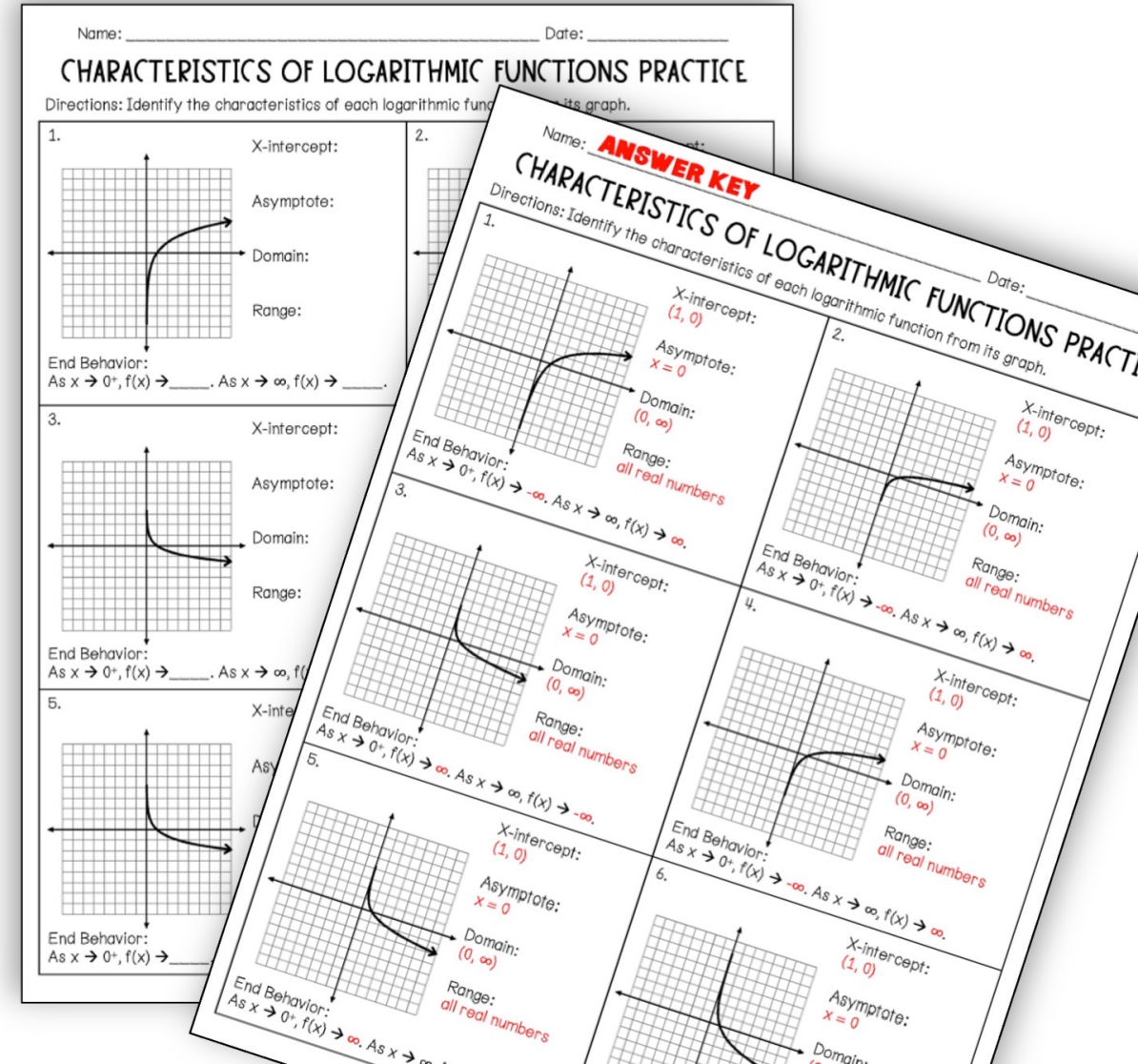
4. $\log 45$ ≈ 1.653	5. $\log_6 12$ ≈ 1.544
---------------------------------	-----------------------------------

Directions: Evaluate each logarithm without a calculator.

6. $\log_5 125$ "5 to what power gives 125?" $5^x = 125$ $5^x = 5^3$ $x = 3$	7. $\log_{1/2} 16$ "1/2 to what power gives 16?" $1/2^x = 16$ $1/2^x = 2^4$ $1/2^x = 1/2^{-4}$ $x = -4$	8. $\log_4 1/16$ "4 to what power gives 1/16?" $4^x = 1/16$ $4^x = (1/4)^2$ $4^x = 4^{-2}$ $x = -2$
--	--	--

Characteristics of Logarithms Practice Worksheet

Students will identify different characteristics of logarithmic functions given the graph. Students will identify the x-intercept, asymptote, domain, range, and end behavior.



Graphing Logarithmic Functions Practice Worksheet

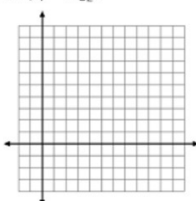
Students graph logarithmic functions given the equation. There are no transformations applied so that students practice graphing and noticing patterns between equations, graphs, and tables.

Name: _____ Date: _____

GRAPHING LOGARITHMIC FUNCTIONS PRACTICE

Directions: Graph each logarithmic function and identify the characteristics.

1. $f(x) = \log_2 x$

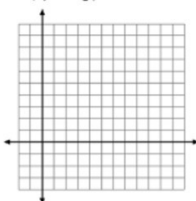


x	y

X-intercept:

Asymptote:

3. $d(x) = \log_4 x$

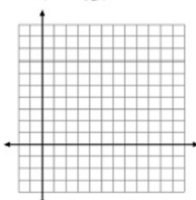


x	y

X-intercept:

Asymptote:

5. $h(x) = \log_{1/4} x$



x	y

X-intercept:

Asymptote:

Name: **ANSWER KEY** Date: _____

GRAPHING LOGARITHMIC FUNCTIONS PRACTICE

Directions: Graph each logarithmic function and identify the characteristics.

1. $f(x) = \log_2 x$

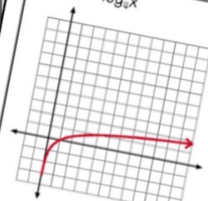


x	y
1/2	-1
1	0
2	1

X-intercept: (1, 0)

Asymptote: $x = 0$

3. $d(x) = \log_4 x$

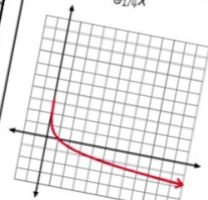


x	y
1/4	-1
1	0
4	1

X-intercept: (1, 0)

Asymptote: $x = 0$

5. $h(x) = \log_{1/4} x$

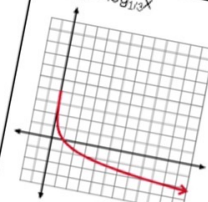


x	y
4	-1
1	0
1/4	1

X-intercept: (1, 0)

Asymptote: $x = 0$

2. $g(x) = \log_{1/3} x$

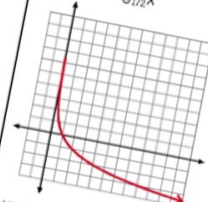


x	y
3	-1
1	0
1/3	1

X-intercept: (1, 0)

Asymptote: $x = 0$

4. $m(x) = \log_{1/2} x$



x	y
2	-1
1	0
1/2	1

X-intercept: (1, 0)

Asymptote: $x = 0$

6. $k(x) = \log x$



x	y
10	1
1	0
1/10	-1

Transformations of Logarithmic Functions Practice Worksheet

Students identify and graph transformations of logarithmic functions given the equation.

Image showing two overlapping worksheets titled "TRANSFORMATIONS OF LOGARITHMIC FUNCTIONS PRACTICE". The top worksheet is the "ANSWER KEY" and the bottom worksheet is the "PRACTICE" sheet.

ANSWER KEY Worksheet:

Name: _____ Date: _____

Directions: Identify the transformation(s) of each logarithmic function.

Function	Transformation(s)
1. $g(x) = \log x + 5$	Vertical shift up 5 units.
2. $g(x) = \log(x - 3)$	Horizontal shift right 3 units.
3. $g(x) = -\log(4x)$	Reflection over the x-axis. Horizontal compression by $1/4$.
4. $g(x) = \log(x + 5) - 6$	Horizontal shift left 5 units. Vertical shift down 6 units.
5. $g(x) = \log(-x) + 7$	Reflection over the y-axis. Vertical shift up 7 units.

Directions: Graph each logarithmic function and identify the characteristics.

Function	X-intercept	Asymptote	Transformation(s)	Domain	Range
6. $k(x) = -\log_2 x + 1$	(3, 0)	$x = 0$	Reflection over the x-axis, vertical shift up 1 unit.	$(0, \infty)$	all real numbers
7. $h(x) = 2\log_2(x + 5)$	(-4, 0)	$x = -5$	Horizontal shift left 5 units, vertical stretch by 2.	$(-5, \infty)$	all real numbers
8. $m(x) = \log_{1/2}(x - 1) + 2$	(5, 0)	$x = 1$	Horizontal shift right 1 unit, vertical shift up 2 units.	$(1, \infty)$	all real numbers

PRACTICE Worksheet:

Name: _____ Date: _____

Directions: Identify the transformation(s) of each logarithmic function.

Function	Transformation(s)
1. $g(x) = \log x + 5$	
2. $g(x) = \log(x - 3)$	
3. $g(x) = -\log(4x)$	
4. $g(x) = \log(x + 5) - 6$	
5. $g(x) = \log(-x) + 7$	

Directions: Graph each logarithmic function and identify the characteristics.

Function	X-intercept	Asymptote	Transformation(s)	Domain	Range
6. $k(x) = -\log_2 x + 1$					
7. $h(x) = 2\log_2(x + 5)$					
8. $m(x) = \log_{1/2}(x - 1) + 2$					

Expanding & Condensing Logarithms Practice Worksheet

Name: _____ Date: _____

EXPANDING AND CONDENSING LOGARITHMS PRACTICE

Directions: Expand or condense the given logarithm.

1. $\log_3\left(\frac{x}{y}\right)$	2. $\log_4 p + \log_4 q$
3. $\log_2\left(\frac{x^3}{yz}\right)$	4. $\log_7(abc)$
5. $6\log_2 t - 3\log_2 r + 2\log_2 s$	6. $\log_5(m^3 n^4)^{1/3}$
7. $4\log x + 2\log y$	8. $\frac{1}{2}\log_3 m + \frac{1}{2}\log_3 n$

ANSWER KEY

Name: _____ Date: _____

EXPANDING AND CONDENSING LOGARITHMS PRACTICE

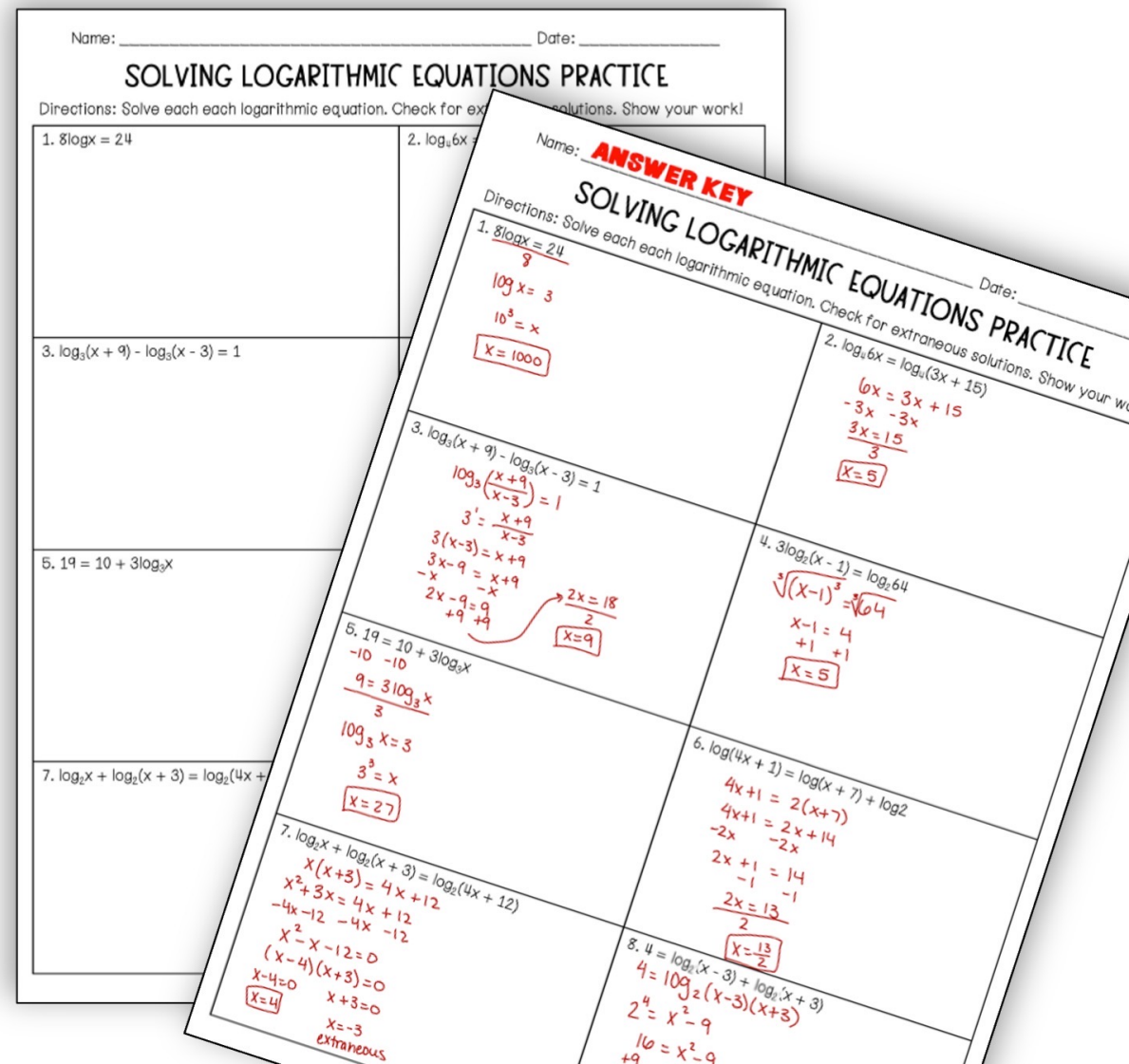
Directions: Expand or condense the given logarithm.

1. $\log_3\left(\frac{x}{y}\right)$ $\log_3 x - \log_3 y$	2. $\log_4 p + \log_4 q$ $\log_4 pq$
3. $\log_2\left(\frac{x^3}{yz}\right)$ $3\log_2 x - 2\log_2 y$	4. $\log_7(abc)$ $\log_7 a + \log_7 b + \log_7 c$
5. $6\log_2 t - 3\log_2 r + 2\log_2 s$ $\log_2 \frac{t^6 s^2}{r^3}$	6. $\log_5(m^3 n^4)^{1/3}$ $\frac{1}{3} [3\log_5 m + 4\log_5 n]$
7. $4\log x + 2\log y$ $\log x^4 y^2$	8. $\frac{1}{2}\log_3 m + \frac{1}{2}\log_3 n$ $\log_3 (mn)^{1/2}$

Students will use properties of logs to either expand or condense the given logarithm.

Solving Logarithmic Equations Practice Worksheet

Students will be solving logarithmic functions and checking for extraneous solutions.



Base e & Natural Logarithm Practice Worksheet

Students evaluate, expand and condense, and solve equations that involve base e and natural logarithms.

Name: _____ Date: _____

BASE E & NATURAL LOGARITHM PRACTICE

Directions: Complete each problem as indicated.

1. Evaluate using a calculator. Round to the nearest thousandth.

$$\ln 12$$

2. Solve.

3. Expand.

$$\ln\left(\frac{x}{y^2}\right)$$

5. Condense.

$$\ln 5 + 2 \ln x$$

7. Solve.

$$\ln(2x - 1) = \ln(x + 6)$$

Name: **ANSWER KEY** Date: _____

BASE E & NATURAL LOGARITHM PRACTICE

Directions: Complete each problem as indicated.
1. Evaluate using a calculator. Round to the nearest thousandth.

$$\ln 12$$

$$\boxed{2.485}$$

2. Solve.

$$\begin{aligned} e^{2x} &= e^{18} \\ 2x &= 18 \\ \frac{2x}{2} &= \frac{18}{2} \\ x &= 9 \end{aligned}$$

3. Expand.

$$\ln\left(\frac{x}{y^2}\right)$$

$$\boxed{\ln x - 3 \ln y}$$

4. Simplify.

$$\sqrt{25e^{8x}}$$

$$\boxed{5e^{4x}}$$

5. Condense.

$$\ln 5 + 2 \ln x$$

$$\boxed{\ln(5x^2)}$$

6. Evaluate using a calculator. Round to the nearest thousandth.

$$e^3$$

$$\boxed{20.086}$$

7. Solve.

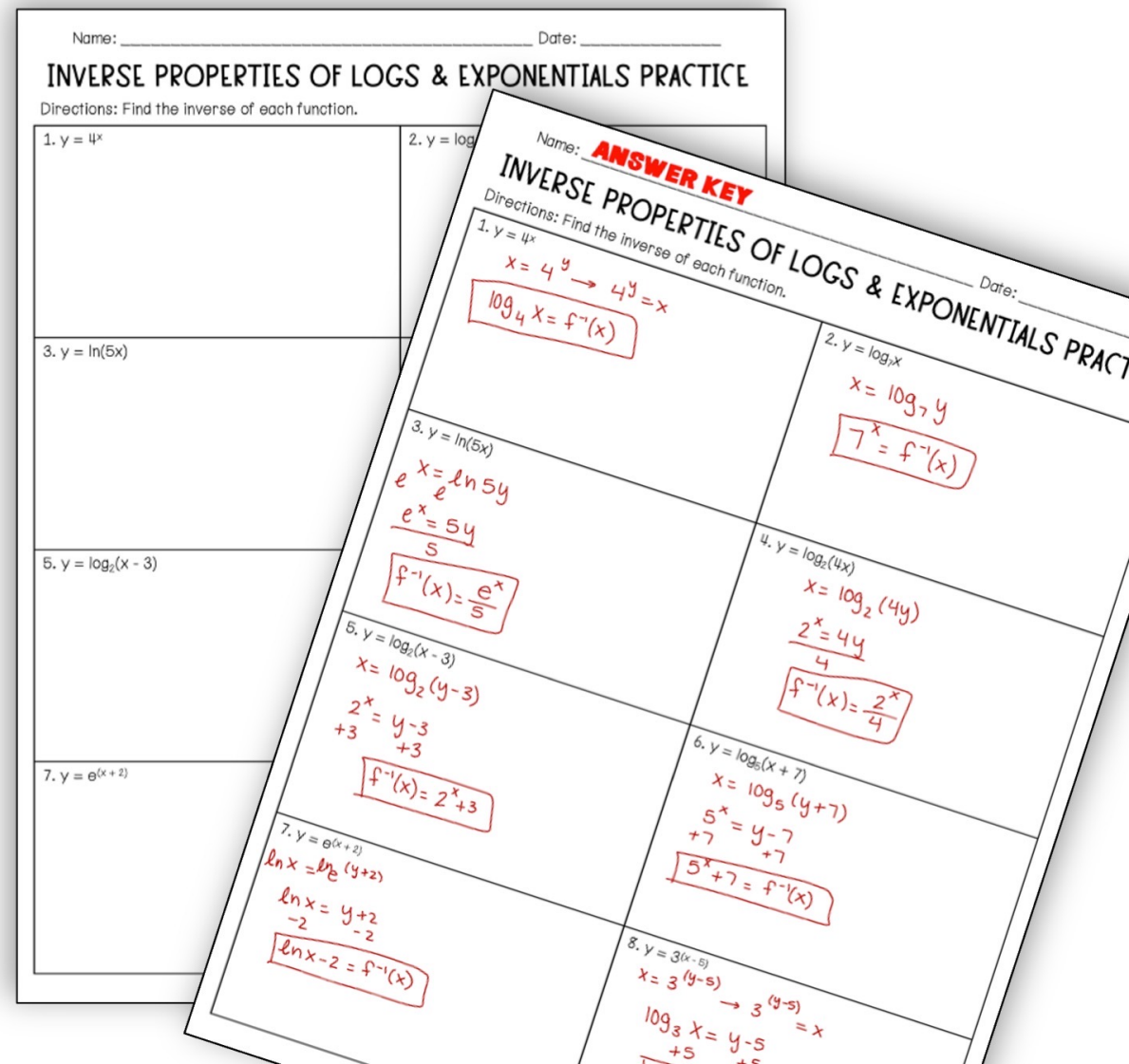
$$\begin{aligned} \ln(2x - 1) &= \ln(x + 6) \\ 2x - 1 &= x + 6 \\ -x &= -x \\ x - 1 &= 6 \\ x &= 7 \end{aligned}$$

8. Solve.

$$\begin{aligned} 2e^{3x} &= 16 \\ \frac{2e^{3x}}{2} &= \frac{16}{2} \end{aligned}$$

Inverse Properties of Logs & Exponentials Practice Worksheet

Students will use knowledge that exponential and logarithmic functions are inverses to find the inverse of given equations.



Solving Exponential & Logarithmic Equations Practice Worksheet

Students solve exponential and logarithmic equations to find exact and approximate solutions.

Name: _____ Date: _____

SOLVING EXPONENTIAL & LOGARITHMIC EQUATIONS PRACTICE

Directions: Solve each equation. Find the exact and approximate solution. Check for extraneous solutions.

1. $6^x = 40$	2. $5e^{2x} = 45$
3. $5^x = 7^{x-2}$	
5. $10^{2x-3} = 2^{x+4}$	
7. $3^{x+2} = 50$	

Name: _____ Date: _____

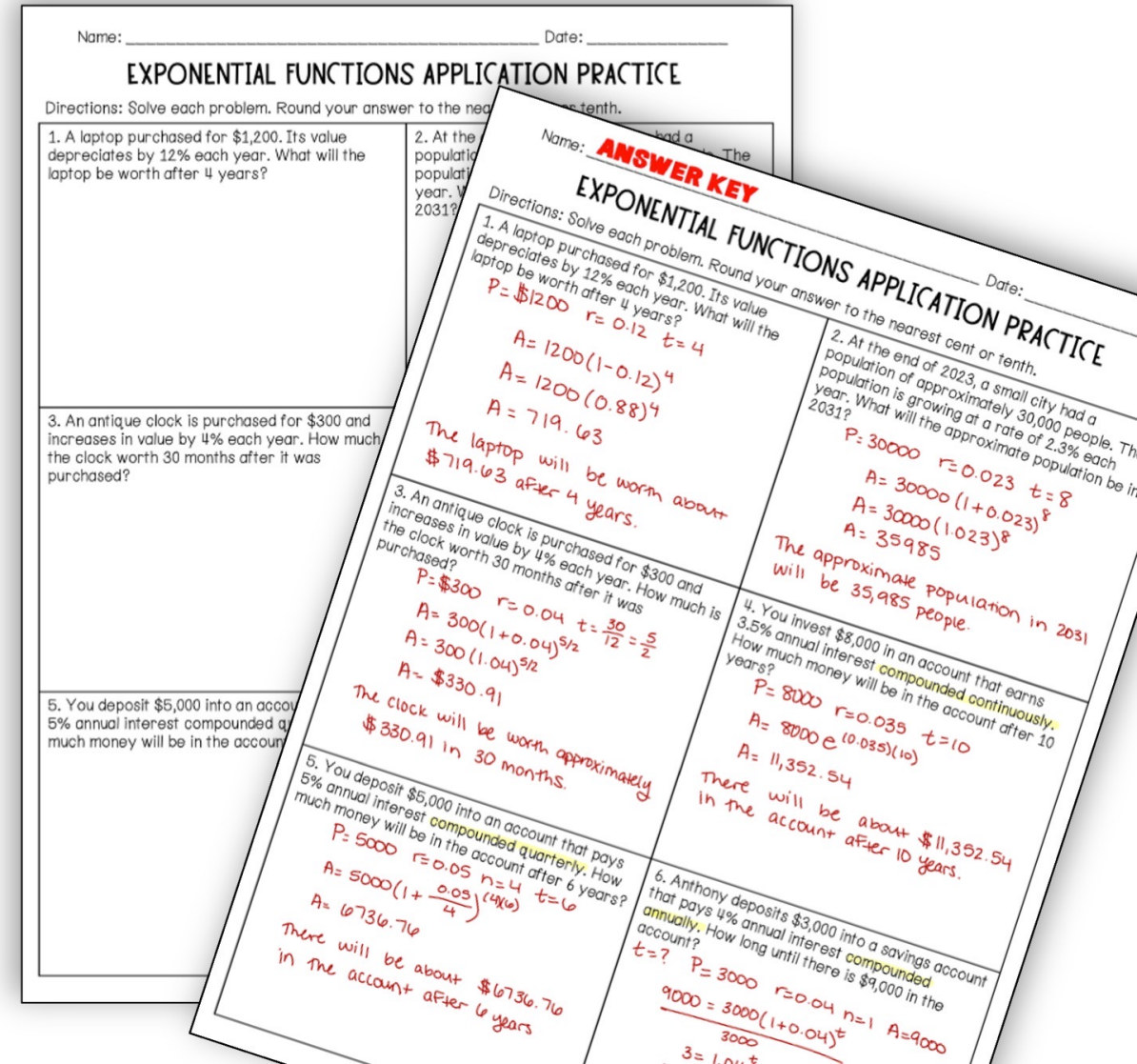
SOLVING EXPONENTIAL & LOGARITHMIC EQUATIONS PRACTICE

Directions: Solve each equation. Find the exact and approximate solution. Check for extraneous solutions.

1. $6^x = 40$ $x \log 6 = \log 40$ $\log 6$ exact: $x = \log\left(\frac{40}{6}\right) = \log\left(\frac{20}{3}\right)$ approx: $x \approx 2.059$	2. $5e^{2x} = 45$ $\frac{5}{5}$ $\ln e^{2x} = \ln 9$ $2x = \ln 9$ exact: $x = \frac{\ln 9}{2}$ approx: $x \approx 1.099$
3. $5^x = 7^{x-2}$ $x \log 5 = (x-2) \log 7$ $x \log 5 = x \log 7 - 2 \log 7$ $-x \log 7 - x \log 7$ $x \log 5 - x \log 7 = -2 \log 7$ $x (\log 5 - \log 7) = -2 \log 7$ $\log 5 - \log 7$ exact: $x = \frac{-2 \log 7}{\log 5 - \log 7}$ approx: $x \approx 11.567$	4. $\ln(3x-2) = 4$ e $3x-2 = e^4$ $+2 +2$ $3x = e^4 + 2$ 3 exact: $x = \frac{e^4 + 2}{3}$ approx: $x \approx 18.866$
5. $10^{2x-3} = 2^{x+4}$ $(2x-3) \log 10 = (x+4) \log 2$ $2x-3 = x \log 2 + 4 \log 2$ $-x \log 2 - x \log 2$ $2x - x \log 2 - 3 = 4 \log 2$ $+3 +3$ $x(2 - \log 2) = 4 \log 2 + 3$ exact: $x = \frac{4 \log 2 + 3}{2 - \log 2}$ approx: $x \approx 2.475$	6. $\ln x + \ln(x-3) = \ln 10$ $\ln x(x-3) = \ln 10$ e $x^2 - 3x = 10$ $-10 -10$ $x^2 - 3x - 10 = 0$ $(x-5)(x+2) = 0$ $x-5=0$ $x+2=0$ $x=5$ $x=-2$ extraneous
7. $3^{x+2} = 50$ $\log_3 50 = x+2$ $-2 -2$ exact: $x = \log_3 50 - 2$ approx: $x \approx 1.561$	8. $6e^{4x-1} + 2 = 50$ $-2 -2$ $6e^{4x-1} = 48$

Exponential Function Application Practice Worksheet

Students will apply knowledge of exponential functions to solve real world applications. Including growth and decay and compound interest problems.



Exponential & Logarithmic Functions Practice Worksheets

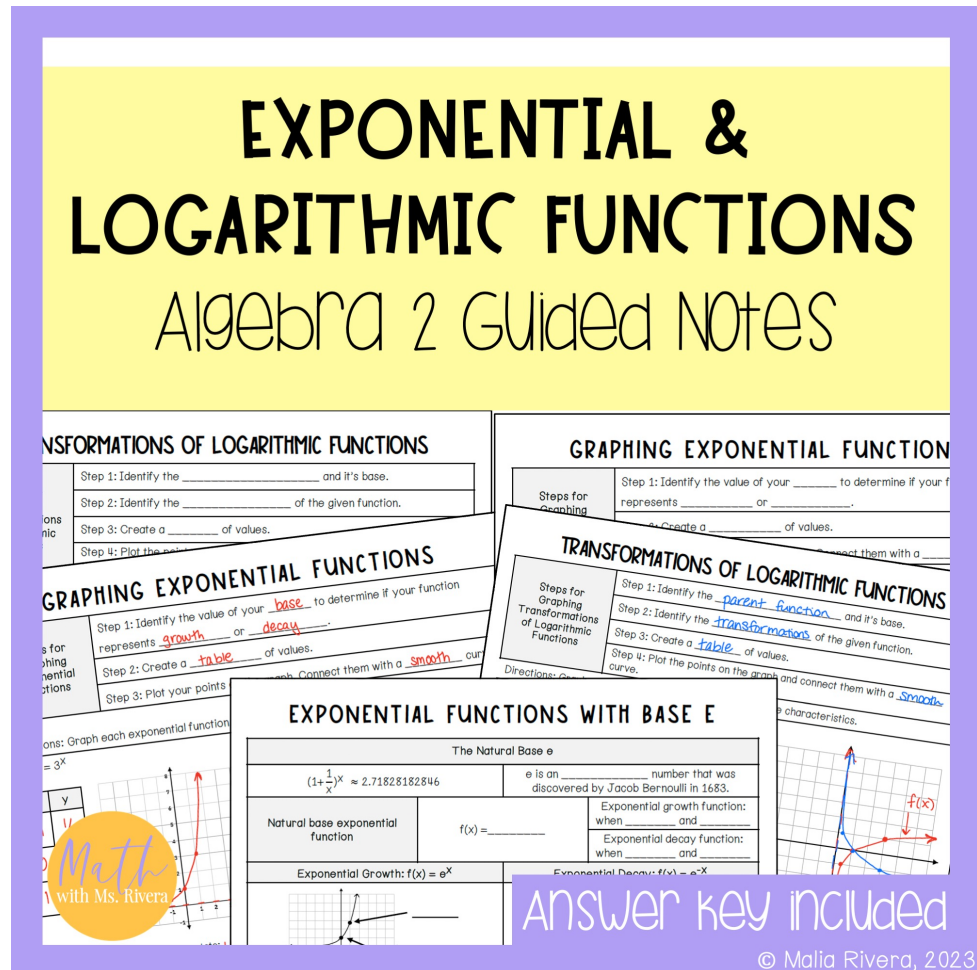
standards covered:

CCSS: HSA-SSE.B.3, HSA-CED.A.2, HSF-IF.B.4, HSF-IF.C.7e, HSF-IF.C.8b, HSF-BF.A.1, HSF-BF.B.3, HSF-BF.B.4, HSF-BF.B.5, HSF-LE.A.1.c, HSF-LE.A.4

TEKs: A2.2.A, A2.2.B, A2.2.C, A2.5.A, A2.5.B, A2.5.C, A2.5.D, A2.5.E, A2.7.I, A2.8.B

VA SOLs: F.All.6.ab, F.All.7.aeghij

Need the notes to go with this?



These practice worksheets are built to follow the **Exponential & Logarithmic Function Guided Notes**.

Grab the full notes bundle to teach the lesson before assigning these practice worksheets! Click on the image to check it out.



hey there!

My name is Malia and I'm passionate about making learning and practicing math fun. I love creating engaging math resources for my students and I hope your students enjoy this activity too!

let's connect!



Follow my TPT store

Did you know you could get **FREE** money from TPT??

All you need to do is leave feedback on the product after you purchase. [Click here](#) to leave reviews and earn credits towards your next TPT purchase!



@mathwithms.rivera



mathwithmsrivera@gmail.com