

Station #1

Calculate the value of the items below using this formula:

$$P = P_0(1 \pm r)^t$$

- a) A \$20,000 car depreciates annually for eight years at 4%.

- b) A \$100,000 home appreciates at 5% from 1985 to 2000.

Station #2

Convert these expressions between exponential form and logarithmic form. Then, solve for the variables.

a) $\log_3 81 = y$

b) $5 = \log_2 x$

c) $7^c = 14$

d) $e^{3t} = 50$ (e is not a variable.)

e) $10^g = 5$

Station #3

Expand these problems using all properties of logarithms:

a) $\log_3 rt$

b) $\log_f k^3$

c) $\log_5 2f^3h^4$

d) $\ln \frac{u}{7}$

e) $\log_4 \frac{3y}{gh}$

f) $\log_9 \frac{2d}{5w^3}$

Station #4

Contract these problems using properties of logarithms:

a) $\log_2 t + \log_2 6 + \log_2 k$

b) $2\log_4 m + 5\log_4 n + \log_4 k$

c) $\frac{1}{2}\log_8 a + \frac{1}{3}\log_8 b$

d) $\log_3 y - \log_3 6 - 2\log_3 t$

e) $2\log_6 t + 3\log_6 t + 5\log_6 t$

Station #5

Create a model for each table of values by using this format:

$$f(x) = a \cdot b^x$$

-1	2.5
0	5
1	10
2	20

-1	3
0	9
1	27
2	81

-1	24
0	12
1	6
2	3

x	-1	0	1	2
y	0.5	2	8	32

Station #6

Solve these problems for each variable:

a) $20,000 = 10,000e^{3t}$

b) $400,000 = 20,000 \cdot 2^{0.05t}$

Station #7

Graph the parent graph

$y = \log_{10} x$ and these graphs:

- a) $y = \log_{10}(x - 2)$ How does this graph differ from the parent graph?

- b) $y = \log_{10}(x + 1) - 3$
Explain how this graph differs from the parent graph.

- c) Explain how the parent graph should be used to graph: $y = \log_{10}(x - h) + k$