

Exponential and Logarithmic Functions: your summary

Name _____

Date _____

vertexmath.ca
Worksheet, answers &
this cheat sheet



1 Fill in every blank from memory. No notes.

2 Check it against the Unit Summary in a different colour.

3 Tick ✓ or X on each card. Every X is a topic to review.

Which strategy?

Write the tool for each case.

$9^x = 27$

$3^x = 20$

$\log_2 x +$

$\log_2(x - 2) = 3$

1 Exponential functions ☒ ☐

1 Range and asymptote of $y = 3(0.5)^x$.

2 Exponential transformations ☒ ☐

2 Asymptote of $y = -2 \cdot 5^{x+1} + 7$.

3 Equal bases ☒ ☐

3 Solve $16^x = 8^{x+3}$.

4 Logarithms ☒ ☐

4 Evaluate $\log_4 64$ and $\log_{1/2} 8$.

5 Log transformations ☒ ☐

5 Domain and asymptote of $y = \log_3(2x - 8) + 1$.

6 Laws of logarithms ☒ ☐

6 Write $2 \log_a x + \log_a y - \log_a z$ as one logarithm.

7 Solving with logarithms ☒ ☐

7 Solve $5^x = 40$ to two decimals.

8 Solve $\log(x + 2) + \log(x - 4) = 1$.

8 Models and log scales ☒ ☐

9 Half-life 11 days. What fraction remains after 33 days?

My traps Your three most likely mistakes, and how you will catch each one.

1 _____ 2 _____ 3 _____

Answers to the numbered prompts. Cover this strip until you are done.

1 $y > 0; y < 0$ 2 $y = 7$ 3 $24x = 23x + 9; 9 = x$ 4 3 and -3 5 $x < 4; x = 4$ 6 $\log_a \frac{z}{y} x$ 7 $x = \log 40 / \log 5 \approx 2.29$ 8 $x^2 - 2x - 18 = 0; x = 1 + \sqrt{19}$ 9 $8/1 = 11/33(7/1) = 1/8$ (rejected)