

Logarithm - Solve

L1ES2

Solve for x.

Example 1:

$$\begin{aligned}\log_x 81 &= 4 \\ x^4 &= 81 \\ x^4 &= 3^4 \\ x &= \mathbf{3}\end{aligned}$$

Example 2:

$$\begin{aligned}\log_4 \left(\frac{1}{16}\right) &= x \\ 4^x &= \frac{1}{16} \\ 4^x &= 4^{-2} \\ x &= \mathbf{-2}\end{aligned}$$

Solve for x.

1) $\log_x 4 = 2$

x =

2) $\log_6 x = 3$

3) $\log_{10} \left(\frac{1}{1000}\right) = x$

x =

5) $\log_5 625 = x$

x =

7) $\log_5 x = 2$

x =

9) $\log_x 49 = 2$

x =

10) $\log_2 x = 8$

x =

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Example 2:

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Solve for x.

1) $\log_x 4 = 2$

x = **2**

2) $\log_6 x = 3$

3) $\log_{10} \left(\frac{1}{1000}\right) = x$

x = **-3**

5) $\log_5 625 = x$

x = **4**

7) $\log_5 x = 2$

x = **25**

9) $\log_x 49 = 2$

x = **7**

10) $\log_2 x = 8$

x = **256**

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