

Logarithm - Solve

L1MS5

Solve for x.

Example 1:

$$\begin{aligned}\log_x 5^{-4} &= -2 \\ x^{-2} &= 5^{-4} \\ x &= \mathbf{25}\end{aligned}$$

Example 2:

$$\begin{aligned}\log_4 x^{\frac{1}{2}} &= 2 \\ 4^2 &= x^{\frac{1}{2}} \\ 4^4 &= x \\ x &= \mathbf{256}\end{aligned}$$

Solve for x.

1) $\log_{64} 8 = x$

x =

2) $\log_1 \left(\frac{1}{5}\right) = x$

3) $\log_2 x = 9$

x =

5) $\log_x 4^{-3} = -6$

x =

7) $\log_8 \left(\frac{1}{4}\right) = x$

x =

9) $\log_{25} \left(\frac{1}{5}\right) = x$

x =

10) $\log_x 49^{\frac{1}{2}} = 1$

x =

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Example 1:

$$\begin{aligned}\log_x 5^{-4} &= -2 \\ x^{-2} &= 5^{-4} \\ x &= \mathbf{25}\end{aligned}$$

Example 2:

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Solve for x.

1) $\log_{64} 8 = x$

x = $\frac{1}{2}$

2) $\log_{\frac{1}{2}} \left(\frac{1}{2}\right) = x$

3) $\log_2 x = 9$

x = **512**

5) $\log_x 4^{-3} = -6$

x = **2**

7) $\log_8 \left(\frac{1}{4}\right) = x$

x = $-\frac{2}{3}$

9) $\log_{25} \left(\frac{1}{5}\right) = x$

x = $-\frac{1}{2}$

10) $\log_x 49^{\frac{1}{2}} = 1$

x = **7**

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