

Logarithm - Solve

L1MS4

Solve for x.

Example 1:

$$\begin{aligned}\log_{32} 2 &= x \\ 32^x &= 2 \\ 2^{5x} &= 2 \\ x &= \frac{1}{5}\end{aligned}$$

Example 2:

$$\begin{aligned}\log_x 3^{-4} &= -2 \\ x^{-2} &= 3^{-4} \\ x &= 9\end{aligned}$$

Solve for x.

1) $\log_9 \left(\frac{1}{3}\right) = x$

x =

2) $\log_{16} 256 = x$

3) $\log_{64} \left(\frac{1}{2}\right) = x$

x =

5) $\log_{81} 3 = x$

x =

7) $\log_6 x = 3$

x =

9) $\log_x 3^{-6} = -2$

x =

10) $\log_3 x^{\frac{4}{5}} = 4$

x =

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Solve for x.

1) $\log_9 \left(\frac{1}{3}\right) = x$

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

2) $\log_{16} 256 = x$

3) $\log_{64} \left(\frac{1}{2}\right) = x$

x = $-\frac{1}{6}$

5) $\log_{81} 3 = x$

x = $\frac{1}{4}$

7) $\log_6 x = 3$

x = **216**

9) $\log_x 3^{-6} = -2$

x = **27**

10) $\log_3 x^{\frac{4}{5}} = 4$

x = **243**

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