

Logarithm - Solve

L2ES3

Solve for x.

Example 1:

$$\begin{aligned}\log_2(x+6) &= 5 \\ 2^5 &= x+6 \\ 32 &= x+6 \\ x &= \mathbf{26}\end{aligned}$$

Example 2:

$$\begin{aligned}\log_2\left(\frac{1}{8}\right) &= 3x \\ 2^{3x} &= \frac{1}{8} \\ 2^{3x} &= 2^{-3} \\ x &= \mathbf{-1}\end{aligned}$$

Solve for x.

1) $\log_3 81 = 2x-4$

x =

2) $\log_{10}(x+4) = 2$

3) $\log_2\left(\frac{1}{32}\right) = 5x$

x =

5) $\log_{x+2}(125) = 3$

x =

7) $\log_3 3x = 4$

x =

9) $\log_6(x-3) = 2$

x =

10) $\log_{x+5}(243) = 5$

x =

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$$\begin{aligned}\log_2(x+6) &= 5 \\ 2^5 &= x+6 \\ 32 &= x+6 \\ x &= \mathbf{26}\end{aligned}$$

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Solve for x.

1) $\log_3 81 = 2x-4$

x = **4**

2) $\log_{10}(x+4) = 2$

3) $\log_2\left(\frac{1}{32}\right) = 5x$

x = **-1**

5) $\log_{x+2}(125) = 3$

x = **3**

7) $\log_3 3x = 4$

x = **27**

9) $\log_6(x-3) = 2$

x = **39**

10) $\log_{x+5}(243) = 5$

x = **-2**

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