

Logarithm - Solve

L2ES2

Solve for x.

Example 1:

$$\begin{aligned}\log_5 25 &= x+2 \\ 5^{x+2} &= 25 \\ 5^{x+2} &= 5^2 \\ x &= \mathbf{0}\end{aligned}$$

Example 2:

$$\begin{aligned}\log_3 (x-4) &= 3 \\ 3^3 &= x-4 \\ 27 &= x-4 \\ x &= \mathbf{31}\end{aligned}$$

Solve for x.

1) $\log_{x+7} (16) = 4$

x =

2) $\log_5 5x = 3$

3) $\log_6 \left(\frac{1}{36}\right) = x-2$

x =

5) $\log_{8x} 256 = 2$

x =

7) $\log_9 (x-1) = \frac{1}{2}$

x =

9) $\log_7 (x+7) = 2$

x =

10) $\log_2 32 = x+9$

x =

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Solve for x.

Example 1:

$$\begin{aligned}\log_5 25 &= x+2 \\ 5^{x+2} &= 25 \\ 5^{x+2} &= 5^2 \\ x &= \mathbf{0}\end{aligned}$$

Example 2:

$$\begin{aligned}\log_3 (x-4) &= 3 \\ 3^3 &= x-4 \\ 27 &= x-4 \\ x &= \mathbf{31}\end{aligned}$$

Solve for x.

1) $\log_{x+7} (16) = 4$

x = **-5**

2) $\log_5 5x = 3$

3) $\log_6 \left(\frac{1}{36}\right) = x-2$

x = **0**

5) $\log_{8x} 256 = 2$

x = **2**

7) $\log_9 (x-1) = \frac{1}{2}$

x = **4**

9) $\log_7 (x+7) = 2$

x = **42**

10) $\log_2 32 = x+9$

x = **-4**

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