

**Logarithm - Solve**

L2MS1

Solve for x.

Example 1:

$$\log_{49} 7 = x+3$$

$$(49)^{x+3} = 7$$

$$(7^2)^{x+3} = 7$$

$$x = -\frac{5}{2}$$

Example 2:

$$\log_{2x} 2^{-4} = -2$$

$$2x^{-2} = 2^{-4}$$

$$2x^{-2} = (2^2)^{-2}$$

$$x = 2$$

Solve for x.

1)  $\log_2 (x-4)^{\frac{1}{5}} = \frac{1}{5}$

x = 

2)  $\log_{x+1} (36) = 2$

3)  $\log_{128} \left(\frac{x}{4}\right) = \frac{1}{7}$

x = 

5)  $\log_{\frac{1}{8}} \left(\frac{1}{2}\right) = x+1$

x = 

7)  $\log_{3x} 3 = \frac{1}{4}$

x = 

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

x = 

10)  $\log_{27} 3^{-3} = x-5$

x = 

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