Name : _____

Score : _____

Logarithm - Solve

Solve for x.

Example 1:

$$\log_{64} 4 = x+2$$
$$(64)^{x+2} = 4$$
$$4^{3x+6} = 4$$
$$3x+6 = 1$$
$$x = -\frac{5}{3}$$

Example 2:

$$\log_4 4x^{\frac{1}{2}} = 2$$
$$4^2 = (4x)^{\frac{1}{2}}$$
$$4^4 = 4x$$
$$x = \mathbf{64}$$

Solve for x.

1) $\log_4 2 = x-5$

x =

2) $\log_{x+2} (27) = 3$

3) $\log_2 \left(\dfrac{1}{4}\right) = 2x+1$

x =

5) $\log_{\frac{1}{3}} \left(\dfrac{1}{9}\right) = 4x$

x =

7) $\log_{x-1} (16) = \dfrac{1}{2}$

x =

x =

9) $2 \log_4 (x-2) = 4$

x =

10) $\log_{128} 2 = x+3$

x =

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