Name : _____   Score : _____

Logarithm - Solve

Solve for x.

Example 1:
$$\log_{32} 2 = x+1$$
$$(32)^{x+1} = 2$$
$$2^{5x+5} = 2$$
$$5x+5 = 1$$
$$x = -\frac{4}{5}$$

Example 2:
$$\log_2 (4x)^{\frac{1}{3}} = 3$$
$$2^3 = (4x)^{\frac{1}{3}}$$
$$2^9 = 4x$$
$$x = \mathbf{128}$$

Solve for x.

1) $\log_4 \left(\frac{1}{16}\right) = 5x+8$

x = _____

2) $\log_{x+6} (81) = 4$

3) $\log_{x-2} (3) = \frac{1}{4}$

x = _____

5) $\log_4 64 = x-8$

x = _____

7) $3 \log_3 (x-1) = 12$

x = _____

x = _____

9) $\log_2 (x+7)^{\frac{1}{3}} = 2$

x = _____

10) $\log_{64} 4 = x+10$

x = _____

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