

## Assignment

Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each equation.**

1)  $3^{2n} = 9$

2)  $3^{3m} = \frac{1}{27}$

3)  $4^{-2x-2} = 4^{x+3}$

4)  $4^{-3x-1} = \frac{1}{64}$

**Solve each equation. Round your answers to the nearest ten-thousandth.**

5)  $5^{x+2} - 9.5 = 80.4$

6)  $4^{n-6} + 6 = 67$

7)  $15^{x+7} - 9 = 16$

8)  $-8 \cdot 15^{-6n} = -70$

**Solve each equation.**

9)  $\log_{14} (3b - 8) = \log_{14} (-2b - 8)$

10)  $\log_7 (6 - 3x) = \log_7 (-4x - 8)$

11)  $\log_{19} (-5m - 10) = \log_{19} (1 - 4m)$

12)  $\log_{16} (3n - 2) = \log_{16} 2n$

13)  $\log_8 (x^2 - 1) - \log_8 6 = 1$

14)  $\log_4 (x + 2) - \log_4 2 = 2$

15)  $\log_4 8 - \log_4 -4x = 2$

16)  $\log_3 (x + 6) - \log_3 x = 4$

## Answers to Assignment (ID: 1)

1)  $\{1\}$

5) 0.7952

9) No solution.

13)  $\{7, -7\}$

2)  $\{-1\}$

6) 8.9654

10)  $\{-14\}$

14)  $\{30\}$

3)  $\left\{-\frac{5}{3}\right\}$

7) -5.8114

11)  $\{-11\}$

15)  $\left\{-\frac{1}{8}\right\}$

4)  $\left\{\frac{2}{3}\right\}$

8) -0.1335

12)  $\{2\}$

16)  $\left\{\frac{3}{40}\right\}$