

## Assignment

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

**Solve each equation.**

1)  $\left(\frac{1}{36}\right)^{3-3a} = 6^3$

2)  $2^{2m-1} = 16$

3)  $\left(\frac{1}{4}\right)^{-r-1} = 4^3$

4)  $36^{3r} = \frac{1}{216}$

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

5)  $14^{x+10} + 1.2 = 71$

6)  $5^{-6x} + 8 = 19$

7)  $10^{8x} - 2 = 28$

8)  $10^{5x} - 2 = 23$

**Solve each equation.**

9)  $\log_{16}(r+1) = \log_{16} -4r$

10)  $\log_{17}(-2a-3) = \log_{17}(-5a+6)$

11)  $\log(-3p-8) = \log(-2p-4)$

12)  $\log_{20}(-4m+10) = \log_{20}(-5m-2)$

13)  $\ln 10 - \ln(x+6) = 1$

14)  $\log_6(x+5) + \log_6 3 = 1$

15)  $\log_8 2 + \log_8(x^2-8) = \log_8 2$

16)  $\log_5 2x^2 + \log_5 8 = 4$

## Answers to Assignment (ID: 1)

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

5)  $-8.3912$

9)  $\left\{-\frac{1}{5}\right\}$

13)  $\left\{\frac{10 - 6e}{e}\right\}$

2)  $\left\{\frac{5}{2}\right\}$

6)  $-0.2483$

10) No solution.

14)  $\{-3\}$

3)  $\{2\}$

7)  $0.1846$

11)  $\{-4\}$

15)  $\{3, -3\}$

4)  $\left\{-\frac{1}{2}\right\}$

8)  $0.2796$

12)  $\{-12\}$

16)  $\left\{\frac{25}{4}, -\frac{25}{4}\right\}$