

Integrated Math 3  
Unit 8: Exponential & Logarithmic Functions  
8.4 Review Worksheet

Name: \_\_\_\_\_

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

**Review for Unit 8 Quiz**

Simplify the expressions entirely.

1.)  $2^x \cdot \frac{1}{32} \cdot 64$

2.)  $\frac{x^{11}}{x^{-5}} + x^8 x^2$

3.)  $9^{x+5} \cdot 27 \cdot 3^{x-1} \cdot \left(\frac{1}{9}\right)^{2x-1}$

4.)  $7^{x-3} \cdot 49 \cdot 14^{2x+1} \cdot \left(\frac{1}{343}\right)^{4x+3}$

Convert forms from logarithmic to exponential or exponential to logarithmic.

4.)  $6^3 = 216$

5.)  $\log_8 512 = 3$

6.)  $e^0 = 1$

7.)  $\ln e = 1$

Solve for  $x$ . Show all work necessary.

$$8.) 5^{3x+3} = 5^{5x+5}$$

$$9.) 4^{4x} = 64^{2x-2}$$

$$10.) 7^x = 29$$

$$11.) 8^{x-7} + 11 = 64$$

$$12.) \log_5 625$$

$$13.) \log_{12} 144$$

$$14.) \log_x 64 = 6$$

$$15.) \log_x \frac{1}{81} = -4$$

$$16.) \log 10000$$

$$17.) 4 \ln 2x = 17$$