

Riddle  
Algebra 2  
Exponential and Logarithmic Functions Test Review

Name \_\_\_\_\_  
Date \_\_\_\_\_

Simplify each expression. Leave the answer in simplest radical form.

1)  $(y^{\sqrt{3}})^{\sqrt{12}}$

2)  $64^{\sqrt{7}} \div 2^{\sqrt{7}}$

Solve each equation.

3)  $3^{n-2} = 27$

4)  $27^x = 9^{-4x+2}$

5)  $(\frac{1}{9})^m = 81^{m+4}$

Write each equation in logarithmic form.

6)  $7^2 = 49$

7)  $2^{-3} = \frac{1}{8}$

Write in exponential form.

8)  $\log_5 625 = 4$

9)  $\log_4 32 = \frac{5}{2}$

Find all real solutions of each equation. Round to 3 decimal places whenever necessary.

10)  $\log_6 216 = x$

11)  $\log_x 64 = 3$

12)  $\log_3(4x+4) = \log_3 64$

13)  $\log_9 5x = \log_9 6 + \log_9(x-2)$

14)  $\log_4 12 - \log_4 x = \log_4 3$

15)  $3\log_7 4 + 4\log_7 3 = \log_7 x$

16)  $3^x = 7$

17)  $1.3^{x-5} = 13.2$

Graph the following equations:

18)  $y = 2^x$

19)  $y = \log_2 x$

20)  $y = \log_2(x - 3)$

21)  $y = 2^x + 2$

22)  $y = 2^{x-4}$

23)  $y = \log_2 x + 1$