Review Unit 9 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Secondary III Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_

Write the given exponential equation as a logarithmic equation

1. 2.  3.  4. 

Write the Given logarithmic equation as an exponential equation

5.  6.  7.  8. 

9. Using a calculator, if  , find 

10. Using a calculator, if  find 

Evaluate the following:

11.  12.  13.  14. 

15.  16.  17.  17. 

Write each as a single logarithm. Assume that all variables are positive.

18.  19.  20.

Use the properties of logarithms to expand the following. Express all exponents as coefficients.

21.  22.  23. 

Use the Change-of-Base to rewrite the following expressions.

24.  25.  26. 

Solve the following. Round your answer to the nearest hundredth. Check for extraneous solutions.

27.  28. 

29.  30. 

 Graph the following, list the transformations (if any), asymptote and two points:

31.  32. 



 Transformations: Transformations:

 Points: Points:

 Asymptote: Asymptote:

33.  34. 



 Transformations: Transformations:

 Points: Points:

 Asymptote: Asymptote:

35. The pH of orange juice is 3.2, and the pH of milk is 6.1.

What are the hydrogen-ion concentrations of orange juice and milk?

36. If Bob invests $5,000 with a 4% interest rate compounded monthly, how long will it take until his investment has grown to $7,000? 