



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

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

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

## Assignment 4D-1

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Use the change-of-base formula to evaluate the logarithm.

1.  $\log_3 30 =$

2.  $\log_7 30 =$

3.  $\log_{0.5} 15 =$

4.  $\log_{0.2} 20 =$

Solve each equation algebraically. Get a numerical approximation for your solution and check it by substitution.

5.  $5^x = 512$

8.  $2.5^x = 300$

6.  $3^{5x} = 100$

9.  $4(5^x) = 210$

7.  $e^x = 217.5$

10.  $4^{x+1} - 2 = 10$

The formula for interest that is *compound continuously* is  $A = Pe^{rt}$ , where  $A$ =final amount,  $P$ =starting amount,  $r$ =interest rate(as a decimal), and  $t$ =time in years.

Find the missing variable.

11.  $A = \$200, P = \$100, r = 2.3\%$

12.  $A = \$3000, P = \$100, t = 30$