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

**Unit 10 Log Review**

Remember to study your notes, homework, and quiz. The “Ultimate Log Worksheet” is also a GREAT review!

1. Convert the following into LOGARITHMIC form.

|  |  |  |  |
| --- | --- | --- | --- |
| 1.
 | 1.
 | 1.
 | 1.
 |

1. Convert the following into EXPONENTIAL form.

|  |  |  |  |
| --- | --- | --- | --- |
| 1.
 | 1.
 | 1.
 | 1.
 |

Solve each equation for x:

3.  4.  5. 

6.  7.  8.

9. Use the laws of logarithms to expand the expression

A.  B. 

10. Use the Laws of Logarithms to combine the expression into a single log

A.  B. 

Solve for *x*: *leave answers as simplified fractions as needed*

11.  12.  13. 

14.  15.  16. 

Solve for *x*: *Round to 2 decimal places*

17.  18.  19. 

20.  21.  22. 

23. Evaluate:

A. B.  C.  D. 

24. The half life of a certain substance is 18 days. If there are 8.3 grams initially, when will there be 0.5 grams left? *Round to 2 decimal places*

25. What is the total value after 7 years of an initial investment of $5250 that earns interest at the rate of 6.1%, compounded monthly?

26. A $2500 investment earns interest compounded quarterly. Determine the interest rate needed in order for the money to grow to $4000 over the course of 4 years. *Give the answer as a percentage rounded to 1 decimal.*

27. How long will it take an investment of $1100 at 7.45% APR to grow to $2500 if the interest rate is compounded monthly? *Round to 1 decimal place*

28. How long will it take an investment of $3000 to double if it is invested in an account earning 4.75% interest compounded continuously?