

Chapter 11

Practice Test

Name _____

Period _____

Directions: Solve the following problems. Show work where necessary. Circle your answer.

1. Evaluate $8^{\frac{1}{2}}$

2. Write $\log_x z = y$ in exponential form.

3. Write $x^4 = 215$ in logarithmic form.

4. Evaluate $\log_3 81$.

5. Evaluate $\log_6 12$.

6. Find $e^{\sqrt{3}}$

7. Find antilog 2.76

8. Find $\ln \frac{3}{.64} + 4 \ln e$

9. Solve $\log_x 8 = 3$

10. Solve $6^{x-2} = 4^x$

11. Solve $\log_7(x - 1) + \log_7 2 = \log_7 14$

12. Evaluate $5^{2\log_5 6}$

13. Write $4\log_3 w - 2\log_3 x + \log_3 z$ as a single logarithm.

14. Solve $x \geq \log_7 343$

15. Express $2x^{\frac{1}{2}}y^{\frac{1}{3}}$ using radicals.

16. Graph $y = 2^x$

17. $y < \log_4(x + 1)$

18. Don Bennion put \$120 into an account which earns 7% interest compounded continuously. How long will it take to double his money?

19. Miss Kester put \$700 into an account. If her interest rate is 5% compounded continuously, when will she have \$5000?

20. A certain bacteria doubles every 2 hours. How long will it take this colony to reach 5 times its original size?

21. After 50 years, a 500 g substance has decayed to only 400 g. What is the half-life of this substance?

22. The atmospheric pressure, p , varies with the altitude, a , above earth. For altitudes up to about 10 km, the pressure is given by $p = 760e^{-0.125a}$ where a is measured in kilometers. Find the atmospheric pressure 4.3 km above the earth.