

Use a calculator to evaluate each expression to four decimal places.

1. $\log 18$

2. $\log 39$

3. $\log 120$

4. $\log 5.8$

5. $\log 42.3$

6. $\log 0.003$

Solve each equation. Round to four decimal places.

7. $4^{3x} = 12$

8. $6^{x+2} = 18$

9. $5^{4x-2} = 120$

10. $7^{3x-1} = 21$

11. $3.6^{4x-1} = 85.4$

12. $2^{x+5} = 3^{x-2}$

Express each logarithm in terms of common logarithms. Then approximate its value to four decimal places.

13. $\log_3 16$

14. $\log_2 40$

15. $\log_5 35$

16. $\log_4 22$

17. $\log_{12} 200$

18. $\log_2 50$

Solve each equation. Round to four decimal places.

19. $2^x = 25$

20. $5^x = 120$

21. $6^x = 45.6$

1. A furniture store is closing out its business. Each week the owner lowers prices by 25%. After how many weeks will the sale price of a \$500 item drop below \$100?
2. Hugo begins a walking program by walking $\frac{1}{2}$ mile per day for one week. Each week thereafter he increases his mileage by 10%. After how many weeks is he walking more than 5 miles per day?
3. How many days will it take a culture of bacteria to increase from 2000 to 50,000 if the growth rate per day is 93.2%?

Algebra 2A
7.3

Name _____
Assignment

Use a calculator to evaluate each expression to four decimal places.

1. $\ln 732$

2. $\ln 84,350$

3. $\ln 0.735$

4. $\ln 100$

Write an equivalent exponential or logarithmic equation.

5. $e^{15} = x$

6. $e^{3x} = 45$

7. $\ln 20 = x$

8. $\ln x = 8$

9. $e^{-5x} = 0.2$

10. $\ln(4x) = 9.6$

11. $e^{8.2} = 10x$

12. $\ln 0.0002 = x$

Evaluate each expression.

13. $\ln e^3$

14. $e^{\ln 42}$

15. $e^{\ln 0.5}$

16. $\ln e^{16.2}$

Solve each equation or inequality.

17. $e^{4x} = 120$

18. $e^x = 25$

19. $e^{x-2} + 4 = 21$

20. $\ln 6x = 4$

21. $\ln(x+3) - 5 = -2$

22. $e^{-8x} = 50$

23. $\ln 3x = 2$

24. $\ln 8x = 3$

25. The population of rabbits in an area is modeled by the growth equation $P(t) = 8e^{0.26t}$, where P , is in thousands and t is in years. How long will it take for the population to reach 25,000?