

**Chapter 7 Quiz 2**

Form G

Lessons 7-4 through 7-6

**Do you know HOW?**

Solve each equation. Round your answer to the nearest hundredth.

1.  $\ln 3x = 8$

2.  $\frac{1}{2}\ln 5x = 4$

3.  $\ln(x - 4) = 2$

Write each expression as a single logarithm.

4.  $\log_5 3 + \log_5 6$

5.  $\log_2 32 - \log_2 8$

6.  $\frac{1}{2}\log_4 25 + \log_4 2$

Solve each equation.

7.  $4^x = 16$

8.  $9^{y-3} = 81$

9.  $\log \frac{1}{3} x = 2$

Expand each logarithm.

10.  $\log_4 \frac{m}{n}$

11.  $\log_5 (x \cdot \sqrt[3]{y})$

12.  $\log_3 \frac{x^4}{y^2}$

**Do you UNDERSTAND?**13. **Vocabulary** What is an exponential equation?14. **Open-Ended** Write  $\log 27$  as a sum or difference of two logarithms. Simplify if possible.15. **Vocabulary** What is the base of the natural logarithmic function  $y = \ln x$ ?16. **Reasoning** Explain how you could find the value of  $\log_{16} 64$  without using a calculator?