

LESSON
7.4**Practice***For use with pages 499–505***Rewrite the equation in exponential form.**

1. $\log_7 49 = 2$

$$7^2 = 49$$

2. $\log_2 16 = 4$

$$2^4 = 16$$

3. $\log_5 125 = 3$

$$5^3 = 125$$

4. $\log_{16} 4 = \frac{1}{2}$

$$16^{\frac{1}{2}} = 4$$

5. $\log_4 \frac{1}{4} = -1$

$$4^{-1} = \frac{1}{4}$$

6. $\log_3 \frac{1}{9} = -2$

$$3^{-2} = \frac{1}{9}$$

Evaluate the logarithm without using a calculator.

7. $\log_9 81$

$$2$$

8. $\log_8 1$

$$0$$

9. $\log_3 \frac{1}{3}$

$$-1$$

10. $\log_4 2$

$$\frac{1}{2}$$

11. $\log_{27} 3$

$$\frac{1}{3}$$

12. $\log_4 4^{\frac{2}{3}}$

$$\frac{2}{3}$$

Use a calculator to evaluate the logarithm. Round the result to three decimal places.

13. $\ln \sqrt{5}$

$$0.805$$

14. $\log 110$

$$2.041$$

15. $\ln \frac{1}{2}$

$$-0.693$$