

Logs and Exponentials LE12e

Evaluate the following logarithms:

1. $\log 1.2$

2. $\ln 3$

3. $\log_4 5$

4. $\log_5 4$

Convert the exponential equation to the logarithmic equation

5. $s = 2^8$

6. $c = 10^3$

7. $d = e^x$

Convert the logarithmic equation to an exponential equation

8. $w = \log_2 b$

9. $y = \log 7$

10. $q = \ln 9$

Solve for x:

11. $4 = 7^x$

12. $8 = 6 + 2e^x$

13. $500 = 4^{3x}$

14. $100 = 4 \cdot 3^{x+2}$

15. $60 = \frac{300}{e^{2.5x}}$

16. A sinkhole opens up near your house. It has a diameter of 5 feet. The diameter of the sinkhole gets 1.72 times bigger each day.

a. Write the equation that models this situation.

b. How big is the sinkhole in 3 days?

c. Your house is 100 feet away from the sinkhole. How many days do you have before the sinkhole reaches your house?