

DIRECTIONS: Solve the exponential equations. Round the results to three decimal places if necessary.

1. $e^x = 18$

2. $e^{2x} = 42$

3. $2^x + 7 = 10$

4. $2^{3x} = 4$

5. $3^{2x} - 3 = 4$

6. $e^{4x} - 3 = 7$

DIRECTIONS: Solve the logarithmic equations. Round the results to three decimal places in necessary.

7. $\log x = -2$

8. $7 \ln x = 21$

9. $7 + \log x = 4$

10. $4 - \ln x = 1$

11. $3 \log x + 1 = 13$

12. $\log_3 3x = 2$