

CW Module 16 DL - Non Calculator

Write each in its equivalent logarithmic or exponential form:

1. $3^7 = 2187$

2. $\log_4 1024 = 5$

For #'s 3-12, solve for x. Answers have to be simplified. No Calculator (Answers may have log, ln, etc.)

Hint: Keep exponential rules in mind! Box your FINAL ANSWER please.

3. $\log_x 144 = -2$	4. $2^x = 55$
5. $81^{x-1} = \frac{1}{27}$	6. $\log_5 x = 4$
7. $16^{5x} = 64^{x+7}$	8. $\left(\frac{1}{32}\right)^{2x} = 64$
9. $6e^{10x-8} - 4 = 32$	10. $8(10)^{7x-6} - 8 = 56$
11. Solve for x. $\log_5 5^{x+1} = \log_5 625$	12. Solve for x. Check for extraneous solutions. $\log_2 x + \log_2 (x+1) + \log_2 2 = 2$
13. Express as a single log of a single argument: $3\log x - \frac{1}{2}\log y + \frac{2}{3}\log z$	14. Use the laws of logarithms to expand the following single log: $\log_3 \frac{x^5 y}{z^2}$