Practice Problems

Solve the following equations:

Remember that the arguments of all logarithms must be greater than 0. Also exponentials in the form of a^x will be greater than 0. Be sure to check all your answers in the original equation.

1. $3^{x-1} = 81$
2. $8^x = 4$
3. $e^x = 5$
4. $-14 + 3e^x = 11$
5. $-6 + \ln 3x = 0$
6. $\log(3x + 1) = 2$
7. $\ln x - \ln 3 = 4$
8. $2 \ln 3x = 4$
9. $5^{x+2} = 4$
10. $\ln(x + 2)^2 = 6$
11. $4^{-3x} = 0.25$
12. $2e^{2x} - 5e^x - 3 = 0$
13. $\log_7 3 + \log_7 x = \log_7 32$
14. $2 \log_6 4x = 0$
15. $\log_2 x + \log_2(x - 3) = 2$
16. $\log_2(x + 5) - \log_2(x - 2) = 3$
17. $4 \ln(2x + 3) = 11$
18. $\log x - \log 6 = 2 \log 4$
19. $2^x = 64$
20. $5^x = 25$
21. $4^{x-3} = \frac{1}{16}$
22. $3^{x-2} = 81$
23. $\log_3 x = 5$
24. $\log_4 x = 3$
25. $\log_2 2x = \log_2 100$
26. $\ln(x + 4) = \ln 7$
27. $\log_3(2x + 1) = 2$
28. $\log_5(x - 10) = 2$
29. $3^x = 500$
30. $8^x = 1000$
31. $\ln x = 7.25$
32. $\ln x = -0.5$
33. $2e^{0.5x} = 45$
34. $100e^{-0.6x} = 20$
35. $12(1 - 4^x) = 18$
36. $25(1 - e^t) = 12$
37. $\log 2x = 1.5$
38. $\log_2 2x = -0.65$
39. $\frac{1}{3}\log_2 x + 5 = 7$
40. $4 \log_5(x + 1) = 4.8$
41. $\log_2 x + \log_2 3 = 3$
42. $2 \log_4 x - \log_4(x - 1) = 1$