Log and Exp Review

Here are some fairly simple exercises to review properties of logarithms, for Calculus I. Remember that log and exp are inverse functions. So, $\log_3$ cancels out the "3" in 3^x. For example, $\log_3 3^4 = 4$.

1) Simplify:

a) $\log_2(1/32) =$

b) $\log_{10} 10^4 =$

c) $\ln \sqrt{e} =$

d) $4 \ln 2 - \ln 3 + \ln 16 =$

2) Solve for x

a) $\log_2(x^2) = 4$

b) $\log_3 3^x = 7$

c) $3e^{-2x} = 5$

d) $e^{2x} - e^x = 6$

Answers:

1a) -5, b) 4, c) 1/2, d) ln (256/3)

2a) 4, b) 7, c) $-(\ln 5/3)/2$, d) $\ln 3$