Precalculus
Homework
Equations involving logarithms and exponents

1. Solve each equation for x. If available, use a calculator to give an ($\approx$) answer in decimal notation. If available, use a calculator to verify your approximate solutions.

   (a) $e^{7-4x} = 7$.

   (b) $\ln(2x - 9) = 2$.

   (c) $\ln(x^2 - 2) = 3$.

   (d) $2^{x-3} = 5$.

   (e) $\ln x + \ln(x - 1) = 1$.

   (f) $e^{2x+1} = t$.

   (g) $\log_2(mx) = c$.

   (h) $e - e^{-2x} = 1$.

   (i) $8(1 + e^{-x})^{-1} = 3$.

   (j) $\ln(\ln x) = 1$.

   (k) $e^{e^x} = 10$.

   (l) $\ln(2x + 1) = 3 - \ln x$.

   (m) $e^{2x} - 4e^x + 3 = 0$.

   (n) $e^{4x} + 3e^{2x} - 4 = 0$.

   (o) $e^{2x} - e^x - 6 = 0$.

   (p) $4^{3x} - 2^{3x+2} - 5 = 0$.

   (q) $3 \cdot 2^x + 2\left(\frac{1}{2}\right)^{x-1} - 7 = 0$.