1. Simplify the following expressions:

   a) $\ln x + \ln y$

   b) $\ln a - \ln b$

   c) $2 \ln f + 3 \ln f$

   d) $e^m e^k$

   e) $\frac{e^c}{e^d}$

2. Expand the following expressions:

   a) $e^{(3h-j)}$

   b) $e^{2(c+w)}$

   c) $\ln h/g$

   d) $\ln(kT)$

   e) $\ln \sqrt{\frac{q}{r}}$