

1 Properties of Logarithms and Exponents

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

(b) Expand the following expressions:

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

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

(c) $\ln h/g$

(d) $\ln(kT)$

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