4.4

Change of base formula

$\log_b a = \frac{\log a}{\log b}$ $\log_3 \frac{15}{3} \approx 2.46$ $\frac{\ln a}{\ln b}$

$\frac{\ln a}{\ln b}$

Log Formulas

$\log_a(m \cdot n) = \log_a(m) + \log_a(n)$

$\log_a\left(\frac{m}{n}\right) = \log_a(m) - \log_a(n)$

$\log_a(m)^c = c \log_a(m)$

ex. $\log_6 95 = \frac{\log 95}{\log 6} = \frac{1.978}{.778} \approx 2.54$

Rewrite $\log_7 \frac{x^2 \cdot y^4}{z^7}$

$\log_7 x^2 \cdot y^4 - z^7$

$\log_7 x^2 + \log_7 y^4 - \log_7 z^7$

$\log_7 5 + 2\log_7 x + 4\log_7 y - 7\log_7 z$

$\ln \frac{p^3}{4q^2 d}$

$3\ln p - \ln 4 - 2\log q - d$

$5\log x + \log b - 2\log c + \log k - \log a$

$\log \frac{x^5 \cdot b \cdot k}{c^2 \cdot a}$