Logarithms

Index = Logarithm

$$N = a^x \qquad \log_a N = x$$

Index form — Logarithm form

Log Laws

(1) $\log_a m + \log_a n = \log_a mn$

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

(3) $\log_a m^n = n \log_a m$

(4) $\log_a 1 = 0$

(5) $\log_a a = 1$

(6) $a^{\log_a x} = x$

(7) $\log_a x = \frac{\log_b x}{\log_b a}$