

Logarithm - Definition, Rules , Formulas and Examples



Properties of Log

Property Name	Property
Log of 1	$\log_a 1 = 0$
Log of the same number as base	$\log_a a = 1$
Product Rule	$\log_a (mn) = \log_a m + \log_a n$
Quotient Rule	$\log_a \left(\frac{m}{n}\right) = \log_a m - \log_a n$
Power Rule	$\log_a m^n = n \log_a m$
Change of Base Rule	$\log_b a = \frac{\log_c a}{\log_c b}$ <p>(OR)</p> $\log_b a \cdot \log_c b = \log_c a$
Equality Rule	$\log_b a = \log_b c \Rightarrow a = c$
Number Raised to Log	$a^{\log_a x} = x$