

Description The properties of logarithms. The following properties apply for any values of M, N and b for which each logarithm is defined, which is $M, N > 0$ and $0 < b \neq 1$. Remember, in order for a logarithm to be defined, the argument of the logarithm must be positive and the base of the logarithm must be positive and not equal to 1.

Logarithm Rules

Product Rule	$\log_b(MN) = \log_b(M) + \log_b(N)$
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Quotient Rule	$\log_b\left(\frac{M}{N}\right) = \log_b(M) - \log_b(N)$
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Power Rule	$\log_b(M^p) = p \log_b(M)$
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Change of Base Rule	$\log_b(M) = \frac{\log_b(M)}{\log_a(b)}$
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