Properties of Logs *are* properties of Exponents!

Exponents Version	Logarithms Version
$a^M a^N = a^{M+N}$	$\log_a(MN) = \log_a(M) + \log_a(N)$
$\dfrac{a^M}{a^N} = a^{M-N}$	$\log_a(MN) = \log_a(M) + \log_a(N)$
$\left(a^M\right)^N = a^{MN}$	$\log_a\left(M^N\right) = N\log_a(M)$
$a^0 = 1$	$\log_a(1) = 0$

Change of Base: To calculate $\log_3(17)$ on a calculator, use

$$\log_3(17) = \frac{\ln(17)}{\ln(3)} = \frac{\text{log to the new base of argument}}{\text{log to the new base of the old base}}$$