

Name _____

Per _____

Logarithm Properties

	Definition	Example
Power Property (exponent inside)	$\log(a^m) = m \log(a)$	$\log(3^x) = x \log(3)$ $\log(x^4) = 4 \log(x)$
Product Property (adding logs)	$\log(m) + \log(n)$ $= \log(m \cdot n)$	$\log(4) + \log(2) = \log(8)$ $\log_3(3) + \log_3(6) = \log_3(18)$
Quotient Property (subtracting logs)	$\log(m) - \log(n)$ $= \log\left(\frac{m}{n}\right)$	$\log(12) - \log(3) = \log(4)$ $\log_4(2) - \log_4(3) = \log_4\left(\frac{2}{3}\right)$