

5 RULES OF LOGS

$$\textcircled{1} \log_a M + \log_a N = \log_a (M \cdot N)$$

$$\textcircled{2} \log_a M - \log_a N = \log_a \left(\frac{M}{N} \right)$$

$$\textcircled{3} \log_a (M^k) = k \cdot \log_a M$$

$$\textcircled{4} \log_a 1 = 0$$

$$\textcircled{5} \log_a a = 1$$