

補足 page 1

$$M = a^x, N = a^y, \log_a M = x, \log_a N = y$$

$$\log_a MN = \log_a a^x a^y = \log_a a^{x+y} = x + y = \log_a M + \log_a N$$

$$\log_a (M / N) = \log_a a^x a^{-y} = \log_a a^{x-y} = x - y = \log_a M - \log_a N$$

$$M^p = a^q, M = a^{(q/p)}, \log_a M = \log_a a^{(q/p)} = q / p$$

$$p \log_a M = q = \log_a a^q = \log M^p$$

$$M = a^x, \log_a M = x,$$

$$\log_b M = \log_b a^x = x \log_b a = \log_a M \log_b a$$

$$\log_a M = \frac{\log_b M}{\log_b a}$$

$$M = b, \log_a b = \frac{1}{\log_b a}$$

$$\log_a a^{\log_a M} = \log_a M \log_a a = \log_a M$$

$$a^{\log_a M} = M$$