$$a^x = b$$
$$x = \log_a b$$

$$\log_a a = 1 \qquad \log_a 1 = 0$$

$$\log_a b^c = c \cdot \log_a b$$

$$\log_a (b \cdot c) = \log_a b + \log_a c$$

$$\log_a \left(\frac{b}{c} \right) = \log_a b - \log_a c$$

$$\log_a b = \frac{\log_c b}{\log_c a}$$

$$\log x \equiv \log_{10} x$$
$$\ln x \equiv \log_e x$$