

Logarithmen

Schreibweise

$$x = \log_a(b) \Leftrightarrow a^x = b$$

Rechengesetze

$$\begin{aligned}\log(a \cdot b) &= \log(a) + \log(b) \\ \log\left(\frac{a}{b}\right) &= \log(a) - \log(b) \\ \log(a^x) &= x \cdot \log(a)\end{aligned}$$

Logarithmische Identitäten

$$\begin{aligned}a^{\log_a b} &= b \\ \log_a(a^b) &= b\end{aligned}$$

Spezielle Basen

$$\begin{aligned}\log_{10} x &= \lg(x) \\ \log_e x &= \ln(x)\end{aligned}$$

Basiswechsel

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