Potenz- und Logarithmenregeln

$a^0 = 1$	$\log_a 1 = 0$	$\ln 1 = 0$
$a^1 = a$	$\log_a a = 1$	$\ln e = 1$
$a^{x+y} = a^x \cdot a^y$	$\log_a(x \cdot y) = \log_a x + \log_a y$	$\ln(x \cdot y) = \ln x + \ln y$
$a^{x-y} = \dfrac{a^x}{a^y}$	$\log_a \dfrac{x}{y} = \log_a x - \log_a y$	$\ln \dfrac{x}{y} = \ln x - \ln y$
$a^{-x} = \dfrac{1}{a^x}$	$\log_a \dfrac{1}{x} = -\log_a x$	$\ln \dfrac{1}{x} = -\ln x$
$\sqrt[q]{a^p} = \left(\sqrt[q]{a}\right)^p = a^{p/q}$		
$(a \cdot b)^x = a^x \cdot b^x$		
$\left(\dfrac{a}{b}\right)^x = \dfrac{a^x}{b^x}$		
$(a^x)^y = a^{xy}$	$\log_a x^y = y \cdot \log_a x \ (x > 0)$	$\ln x^y = y \cdot \ln x \ (x > 0)$
$a^{\log_a x} = x$	$\log_a a^x = x$	
$e^{\ln x} = x$		$\ln e^x = x$

Wichtige Grenzwerte

$\lim\limits_{n\to\infty} \left(1 + \dfrac{1}{n}\right)^n = e$
$\lim\limits_{n\to\infty} \left(1 + \dfrac{x}{n}\right)^n = e^x$
$\lim\limits_{h\to 0} \dfrac{\ln(1+h)}{h} = 1$
$\lim\limits_{h\to 0} \dfrac{e^h - 1}{h} = 1$
$\lim\limits_{h\to 0} \dfrac{\sin h}{h} = 1$