

Tabelle einiger Grundintegrale

$$\int x^n dx = \frac{x^{n+1}}{n+1} + c \quad (n \neq -1, n \in \mathbb{Z}, \text{ für } n < -1 \text{ ist } x \neq 0)$$

$$\int x^\alpha dx = \frac{x^{\alpha+1}}{\alpha+1} + c \quad (\alpha \neq -1, \alpha \in \mathbb{R}, x > 0)$$

$$\int \frac{dx}{x} = \begin{cases} \ln x + c & \text{für } x > 0 \\ \ln(-x) + c & \text{für } x < 0 \end{cases} = \ln|x| + c \quad (x \neq 0)$$

$$\int a^x dx = \frac{a^x}{\ln a} + c \quad (a > 0, a \neq 1)$$

$$\int \cos x dx = \sin x + c$$

$$\int \sin x dx = -\cos x + c$$

$$\int \frac{dx}{\cos^2 x} = \tan x + c \quad (x \neq \frac{\pi}{2} + k\pi, k \in \mathbb{Z})$$

$$\int \frac{dx}{\sin^2 x} = -\cot x + c \quad (x \neq k\pi, k \in \mathbb{Z})$$

$$\int \cosh x dx = \sinh x + c$$

$$\int \sinh x dx = \cosh x + c$$

$$\int \frac{dx}{\cosh^2 x} = \tanh x + c$$

$$\int \frac{dx}{\sinh^2 x} = -\coth x + c \quad (x \neq 0)$$

$$\int \frac{dx}{\sqrt{1-x^2}} = \arcsin x + c \quad (|x| < 1)$$

$$\int \frac{dx}{1+x^2} = \arctan x + c$$

$$\int \frac{dx}{\sqrt{1+x^2}} = \ln(x + \sqrt{1+x^2}) + c$$

$$\int \frac{dx}{\sqrt{x^2-1}} = \ln|x + \sqrt{x^2-1}| + c \quad (|x| > 1)$$

$$\int \frac{dx}{1-x^2} = \frac{1}{2} \ln \left| \frac{x+1}{x-1} \right| + c \quad (|x| \neq 1)$$