

einige wichtige Integrale

$$\int x^s dx = \frac{x^{s+1}}{s+1} + C$$

$(s \in \mathbb{C} \setminus \{-1\}, x > 0 \text{ oder } s \in \mathbb{N}, x \in \mathbb{R})$

$$\int \frac{dx}{x} = \log |x| + C = \log(\alpha x)$$

$(x > 0, \alpha > 0 \text{ oder } x < 0, \alpha < 0)$

$$\int e^x dx = e^x + C$$

eng verwandte Varianten davon:

$$\int a^x dx = \frac{a^x}{\log a} + C \quad (a > 0)$$

$$\int e^{\lambda x} dx = \frac{e^{\lambda x}}{\lambda} + C \quad (\lambda \in \mathbb{C} \setminus \{0\})$$

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

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

$$\int \tan x dx = -\log \cos x + C \quad \left(-\frac{\pi}{2} < x < \frac{\pi}{2}\right)$$

$$\int \cot x dx = \log \sin x + C \quad (0 < x < \pi)$$

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

$$\int \frac{dx}{\sqrt{1-x^2}} = \arcsin x + C$$