Tabulkové integrály

$$\int a\,\mathrm{d}x = ax + c \qquad a \in \mathbb{R}, x \in \mathbb{R}$$

$$\int x^n\,\mathrm{d}x = \tfrac{x^{n+1}}{n+1} + c \qquad n \in \mathbb{N},\ x \in \mathbb{R}$$

$$\int x^\alpha\,\mathrm{d}x = \tfrac{x^{\alpha+1}}{\alpha+1} + c \qquad \alpha \in \mathbb{R} \setminus \{-1\},\ x \in \mathbb{R}^+$$

$$\int \tfrac{1}{x}\,\mathrm{d}x = \ln|x| + c \qquad x \in \mathbb{R} \setminus \{0\}$$

$$\int e^x\,\mathrm{d}x = e^x + c \qquad x \in \mathbb{R}$$

$$\int a^x\,\mathrm{d}x = \tfrac{a^x}{\ln a} + c \qquad a \in \mathbb{R}^+ \setminus \{1\},\ x \in \mathbb{R}$$

$$\int \sin x\,\mathrm{d}x = -\cos x + c \qquad x \in \mathbb{R}$$

$$\int \cos x\,\mathrm{d}x = \sin x + c \qquad x \in \mathbb{R}$$

$$\int \tfrac{1}{\cos^2 x}\mathrm{d}x = \mathrm{tg}\,x + c \qquad x \in \mathbb{R} \setminus \{\tfrac{\pi}{2} + k\pi, k \in \mathbb{Z}\}$$

$$\int \tfrac{1}{\sin^2 x}\mathrm{d}x = -\mathrm{cotg}\,x + c \qquad x \in \mathbb{R} \setminus \{k\pi, k \in \mathbb{Z}\}$$

$$\int \tfrac{1}{1+x^2}\mathrm{d}x = \mathrm{arctg}\,x + c \qquad x \in \mathbb{R}$$

$$\int \tfrac{1}{a+x^2}\mathrm{d}x = \tfrac{1}{\sqrt{a}}\mathrm{arctg}\,\tfrac{x}{\sqrt{a}} + c \qquad x \in \mathbb{R}$$

$$\int \tfrac{1}{1+x^2}\mathrm{d}x = -\mathrm{arccotg}\,x + c \qquad x \in \mathbb{R}$$

$$\int \tfrac{1}{\sqrt{1-x^2}}\mathrm{d}x = -\arccos x + c \qquad x \in (-1, 1)$$

$$\int \tfrac{1}{\sqrt{1-x^2}}\mathrm{d}x = \arcsin x + c \qquad x \in (-1, 1)$$

$$\int \tfrac{1}{\sqrt{a-x^2}}\mathrm{d}x = \arcsin \tfrac{x}{\sqrt{a}} + c \qquad x \in (-\sqrt{a}, \sqrt{a})$$

$$\int \frac{f'(x)}{f(x)}\mathrm{d}x = \ln|f(x)| + c \quad f(x) \neq 0$$

$$\int f(ax+b)\mathrm{d}x = \frac{1}{a}F(ax+b) + c \quad a \in \mathbb{R} \setminus \{0\},\ b \in \mathbb{R},\ F \text{ ...prim. f. k } f$$

Vzorce pro integrování součtu a rozdílu funkcí

$$\int (f(x) \pm g(x))\ \mathrm{d}x = \int f(x)\,\mathrm{d}x \pm \int g(x)\,\mathrm{d}x,$$

$$\int af(x)\,\mathrm{d}x = a \int f(x)\,\mathrm{d}x.$$

Metoda per partes

$$\int u(x) \cdot v'(x)\,\mathrm{d}x = u(x) \cdot v(x) - \int u'(x) \cdot v(x)\ \mathrm{d}x.$$

Substituční metoda

$$\int f(\varphi(x)) \cdot \varphi'(x)\,\mathrm{d}x = \int f(t)\,\mathrm{d}t,\ \text{kde } t = \varphi(x).$$

Newton–Leibnizův vzorec pro určité integrály

$$\int_a^b f(x)\,\mathrm{d}x = F(b) - F(a),\ \text{kde } F \text{ je prim. funkce k } f.$$