

Neurčité integrály elementárních funkcí

| $f(x)$ | $\int f(x) dx - C$ | <i>pozn.</i> |
|--------------------------|----------------------------|-------------------------------|
| 0 | c | $c = const.$ |
| x^n | $\frac{x^{n+1}}{n+1}$ | $n \in \mathbb{R}, n \neq -1$ |
| e^x | e^x | |
| $\frac{1}{x}$ | $\ln x $ | |
| $\sin x$ | $-\cos x$ | |
| $\cos x$ | $\sin x$ | |
| $\frac{1}{\cos^2 x}$ | $\operatorname{tg} x$ | |
| $\frac{1}{\sin^2 x}$ | $-\operatorname{cotg} x$ | |
| $\frac{1}{\sqrt{1-x^2}}$ | $\arcsin x$ | $= -\arccos x$ |
| $\frac{1}{1+x^2}$ | $\operatorname{arctg} x$ | $= -\operatorname{arccot} x$ |
| $\sinh x$ | $\cosh x$ | |
| $\cosh x$ | $\sinh x$ | |
| $\frac{1}{\cosh^2 x}$ | $\operatorname{tgh} x$ | |
| $\frac{1}{\sinh^2 x}$ | $-\operatorname{coth} x$ | |
| $\frac{1}{\sqrt{x^2+1}}$ | $\operatorname{argsinh} x$ | $= \ln x + \sqrt{x^2+1} $ |
| $\frac{1}{\sqrt{x^2-1}}$ | $\operatorname{argcosh} x$ | $= \ln x + \sqrt{x^2-1} $ |
| $\frac{1}{1-x^2}$ | $\operatorname{argtgh} x$ | $= \operatorname{argcoth} x$ |

Základní pravidla pro výpočet integrálů

$$\int (f + g) dx = \int f dx + \int g dx$$

$$\int cf dx = c \int f dx$$

$$\int f'g dx = fg - \int fg' dx$$

$$\int f(\varphi(x))\varphi'(x) dx = \left(\int f(y) dy \right) \Big|_{y=\varphi(x)}$$