

Integrály – základní vzorce

$$(1) \int 1 dx = x + c,$$

$$(2) \int x^n dx = \frac{x^{n+1}}{n+1} + c, \quad n \neq -1,$$

$$(3) \int \frac{1}{x} dx = \ln |x| + c,$$

$$(4) \int e^x dx = e^x + c,$$

$$(5) \int a^x dx = \frac{a^x}{\ln a} + c, \quad a > 0, \quad a \neq 1,$$

$$(6) \int \sin x dx = -\cos x + c,$$

$$(7) \int \cos x dx = \sin x + c,$$

$$(8) \int \frac{1}{x^2+1} dx = \operatorname{arctg} x + c$$

$$(9) \int \frac{1}{(x-x_0)^2+a^2} dx = \frac{1}{a} \operatorname{arctg} \left(\frac{x-x_0}{a} \right) + c,$$

$$(10) \int \frac{1}{\sqrt{a^2-x^2}} dx = \arcsin \frac{x}{a} + c,$$

$$(11) \int \frac{1}{\sqrt{x^2+a}} dx = \ln |x + \sqrt{x^2+a}| + c,$$

$$(12) \int \frac{1}{\cos^2 x} dx = \operatorname{tg} x + c,$$

$$(13) \int \frac{1}{\sin^2 x} dx = -\operatorname{cotg} x + c,$$

$$(14) \int \frac{f'(x)}{f(x)} dx = \ln |f(x)| + c.$$