Základní vzorce pro algebraické úpravy

$(xy)^n = x^n y^n$
$\left(\frac{x}{y}\right)^n = \frac{x^n}{y^n}$
$x^n x^m = x^{n+m}$
$\frac{x^n}{x^m} = x^{n-m}$
$\frac{1}{x^n} = x^{-n}$
$\sqrt[n]{x} = x^{\frac{1}{n}}$

$\frac{\frac{a}{b}}{\frac{c}{d}} = \frac{a}{b} \cdot \frac{d}{c}$
$(a \pm b)^2 = a^2 \pm 2ab + b^2$
$(a \pm b)^3 = a^3 \pm 3a^2b + 3ab^2 \pm b^3$
$(a+b)(a-b) = a^2 - b^2$

$\log_z a^n = n \log_z a$
$\log_z ab = \log_z a + \log_z b$
$\log_z \frac{a}{b} = \log_z a - \log_z b$
$z^{\log_z a} = a$

Goniometrie

$f(x) \setminus x$	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
$\sin x$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos x$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
$\operatorname{tg} x$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$-$
$\operatorname{cotg} x$	$-$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0

$\sin^2 x + \cos^2 x = 1$
$\operatorname{tg} x = \frac{\sin x}{\cos x}$
$\operatorname{cotg} x = \frac{1}{\operatorname{tg} x} = \frac{\cos x}{\sin x}$
$\sin 2x = 2 \sin x \cos x$
$\cos 2x = \cos^2 x - \sin^2 x$

Derivace

Funkce	Derivace	Poznámka
k	0	k ... konstanta
x^n	nx^{n-1}	$n \neq 0$
e^x	e^x	
a^x	$a^x \ln a$	$a > 0$
$\ln x$	$\frac{1}{x}$	
$\log_a x$	$\frac{1}{x \ln a}$	$a \in (0,1) \cup (1,\infty)$
$\sin x$	$\cos x$	
$\cos x$	$-\sin x$	
$\operatorname{tg} x$	$\frac{1}{\cos^2 x}$	
$\operatorname{cotg} x$	$\frac{-1}{\sin^2 x}$	

$(f(x) \pm g(x))' = f'(x) \pm g'(x)$

$(k\, f(x))' = k\, f'(x), \qquad k$ ... konst.

$(f(x) \cdot g(x))' = f'(x)g(x) + f(x)g'(x)$

$\left(\frac{f(x)}{g(x)}\right)' = \frac{f'(x)g(x) - f(x)g'(x)}{g^2(x)}, \qquad g(x) \neq 0$

$[f(g(x))]' = f'(g(x)) \cdot g'(x)$

Primitivní funkce

Primitivní funkce	Poznámka
$\int k \,\mathrm{d}x = kx + c$	k ... konst.
$\int x^n \,\mathrm{d}x = \frac{x^{n+1}}{n+1} + c$	$n \neq -1$
$\int \mathrm{e}^x \,\mathrm{d}x = \mathrm{e}^x + c$	
$\int \sin x \,\mathrm{d}x = -\cos x + c$	
$\int \cos x \,\mathrm{d}x = \sin x + c$	
$\int \frac{1}{x} \,\mathrm{d}x = \ln\lvert x\rvert + c$	
$\int \frac{1}{\cos^2 x} \,\mathrm{d}x = \operatorname{tg} x + c$	
$\int \frac{-1}{\sin^2 x} \,\mathrm{d}x = \operatorname{cotg} x + c$	

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

$\int (k\, f(x))\,\mathrm{d}x = k \int f(x)\,\mathrm{d}x, \qquad k$ ... konst.

$\int f(x) \cdot g'(x)\,\mathrm{d}x = f(x)g(x) - \int f'(x)g(x)\,\mathrm{d}x$

$\int f(g(x))g'(x)\,\mathrm{d}x = \int f(t)\,\mathrm{d}t,$
$g(x) = t, \qquad g'(x)\,\mathrm{d}x = \mathrm{d}t$