Adicijski teoremi

$$\begin{aligned}
\sin(x \pm y) &= \sin x \cos y \pm \cos x \sin y \\
\cos(x \pm y) &= \cos x \cos y \mp \sin x \sin y \\
\operatorname{tg}(x \pm y) &= \frac{\operatorname{tg} x \pm \operatorname{tg} y}{1 \mp \operatorname{tg} x \operatorname{tg} y} \\
\operatorname{ctg}(x \pm y) &= \frac{\operatorname{ctg} x \operatorname{ctg} y \mp 1}{\operatorname{ctg} y \pm \operatorname{ctg} x}
\end{aligned}$$

Funkcije višestrukih argumenata

$$\begin{aligned}
\sin 2x &= 2 \sin x \cos x \\
\cos 2x &= \cos^2 x - \sin^2 x \\
\operatorname{tg} 2x &= \frac{2 \operatorname{tg} x}{1 - \operatorname{tg}^2 x} \\
\operatorname{ctg} 2x &= \frac{\operatorname{ctg}^2 x - 1}{2 \operatorname{ctg} x}
\end{aligned}$$

Formule pretvorbe

$$\sin x \cos y = \tfrac{1}{2}(\sin(x+y) + \sin(x-y))$$

$$\cos x \cos y = \tfrac{1}{2}(\cos(x+y) + \cos(x-y))$$

$$\sin x \sin y = \tfrac{1}{2}(\cos(x-y) - \cos(x+y))$$

$$\sin x + \sin y = 2 \sin \tfrac{x+y}{2} \cos \tfrac{x-y}{2}$$

$$\sin x - \sin y = 2 \cos \tfrac{x+y}{2} \sin \tfrac{x-y}{2}$$

$$\cos x + \cos y = 2 \cos \tfrac{x+y}{2} \cos \tfrac{x-y}{2}$$

$$\cos x - \cos y = -2 \sin \tfrac{x+y}{2} \sin \tfrac{x-y}{2}$$

Funkcije polovičnih argumenata

$$\begin{aligned}
\sin^2 \tfrac{x}{2} &= \frac{1 - \cos x}{2} \\
\cos^2 \tfrac{x}{2} &= \frac{1 + \cos x}{2}
\end{aligned}$$

$f(x)$	$f'(x)$
x^a	ax^{a-1}
$\sin x$	$\cos x$
$\cos x$	$-\sin x$
$\operatorname{tg} x$	$\dfrac{1}{\cos^2 x}$
$\operatorname{ctg} x$	$-\dfrac{1}{\sin^2 x}$
$\arcsin x$	$\dfrac{1}{\sqrt{1-x^2}}$
$\arccos x$	$-\dfrac{1}{\sqrt{1-x^2}}$
$\operatorname{arctg} x$	$\dfrac{1}{1+x^2}$
$\operatorname{arcctg} x$	$-\dfrac{1}{1+x^2}$
e^x	e^x
a^x	$a^x \ln a$
$\ln x$	$\dfrac{1}{x}$
$\log_a x$	$\dfrac{1}{x \ln a}$
$\operatorname{sh} x$	$\operatorname{ch} x$
$\operatorname{ch} x$	$\operatorname{sh} x$
$\operatorname{th} x$	$\dfrac{1}{\operatorname{ch}^2 x}$
$\operatorname{cth} x$	$-\dfrac{1}{\operatorname{sh}^2 x}$
$\operatorname{arsh} x$	$\dfrac{1}{\sqrt{1+x^2}}$
$\operatorname{arch} x$	$\dfrac{1}{\sqrt{x^2-1}}$
$\operatorname{arth} x$	$\dfrac{1}{1-x^2}$
$\operatorname{arcth} x$	$\dfrac{1}{1-x^2}$

1) $\int \frac{dx}{x} = ln|x| + C$

2) $\int x^{\alpha} dx = \frac{x^{\alpha+1}}{\alpha+1} + C, \alpha \in \mathbf{R} \setminus \{-1\}$

3) $\int a^x dx = \frac{a^x}{lna} + C$

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

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

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

7) $\int \frac{dx}{\sin^2 x} = -\operatorname{ctg} x + C$

8) $\int \frac{dx}{\sin^2 x} = \operatorname{tg} x + C$

9) $\int \frac{dx}{x^2+a^2} = \frac{1}{a} \operatorname{arctg}(\frac{x}{a}) + C,\ a > 0$

10) $\int \frac{dx}{x^2-a^2} = \frac{1}{2a} \ln \left| \frac{x-a}{x+a} \right| + C,\ a > 0$

11) $\int \frac{dx}{\sqrt{a^2-x^2}} = \arcsin(\frac{x}{a}) + C,\ a > 0$

12) $\int \frac{dx}{\sqrt{x^2+A}} = \ln |x + \sqrt{x^2+A}| + C,\ A \neq 0$

13) $\int \operatorname{sh} x dx = \operatorname{ch} x + C$

14) $\int \operatorname{ch} x dx = \operatorname{sh} x + C$

15) $\int \frac{dx}{\operatorname{sh}^2 x} = -\operatorname{cth} x + C$

16) $\int \frac{dx}{\operatorname{ch}^2 x} = \operatorname{th} x + C$

17) $\int \frac{dx}{\sin x} = \ln |\operatorname{tg} \frac{x}{2}| + C$

18) $\int \frac{dx}{\cos x} = \ln |\operatorname{tg}(\frac{x}{2} + \frac{\pi}{4})| + C$