

## Vrijednosti sinusa i kosinusa

$\varphi$	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
$\sin \varphi$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos \varphi$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0

## 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

$$\begin{aligned}\sin x \cos y &= \frac{1}{2}(\sin(x+y) + \sin(x-y)) \\ \cos x \cos y &= \frac{1}{2}(\cos(x+y) + \cos(x-y)) \\ \sin x \sin y &= \frac{1}{2}(\cos(x-y) - \cos(x+y)) \\ \sin x + \sin y &= 2 \sin \frac{x+y}{2} \cos \frac{x-y}{2} \\ \sin x - \sin y &= 2 \cos \frac{x+y}{2} \sin \frac{x-y}{2} \\ \cos x + \cos y &= 2 \cos \frac{x+y}{2} \cos \frac{x-y}{2} \\ \cos x - \cos y &= -2 \sin \frac{x+y}{2} \sin \frac{x-y}{2}\end{aligned}$$

## Funkcije polovičnih argumenata

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

## Neke važne formule

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

## Tablica derivacija

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

## Tablica integrala

$$\begin{aligned}\int \frac{dx}{x} &= \ln |x| + C \\ \int x^\alpha dx &= \frac{x^{\alpha+1}}{\alpha+1} + C, \alpha \in \mathbf{R} \setminus \{-1\} \\ \int a^x dx &= \frac{a^x}{\ln a} + C \\ \int e^x dx &= e^x + C \\ \int \sin x dx &= -\cos x + C \\ \int \cos x dx &= \sin x + C \\ \int \frac{dx}{\sin^2 x} &= -\operatorname{ctg} x + C \\ \int \frac{dx}{\sin^2 x} &= \operatorname{tg} x + C \\ \int \frac{dx}{x^2+a^2} &= \frac{1}{a} \operatorname{arctg} \left( \frac{x}{a} \right) + C, a > 0 \\ \int \frac{dx}{x^2-a^2} &= \frac{1}{2a} \ln \left| \frac{x-a}{x+a} \right| + C, a > 0 \\ \int \frac{dx}{\sqrt{a^2-x^2}} &= \arcsin \left( \frac{x}{a} \right) + C, a > 0 \\ \int \frac{dx}{\sqrt{x^2+A}} &= \ln |x + \sqrt{x^2+A}| + C, A \neq 0 \\ \int \operatorname{sh} x dx &= \operatorname{ch} x + C \\ \int \operatorname{ch} x dx &= \operatorname{sh} x + C \\ \int \frac{dx}{\operatorname{sh}^2 x} &= -\operatorname{cth} x + C \\ \int \frac{dx}{\operatorname{ch}^2 x} &= \operatorname{th} x + C\end{aligned}$$