

Vrijednosti sinusa i kosinusa

φ	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

$$\begin{aligned}\sin(x \pm y) &= \sin x \cos y \pm \cos x \sin y \\ \cos(x \pm y) &= \cos x \cos y \mp \sin x \sin y\end{aligned}$$

$$\operatorname{tg}(x \pm y) = \frac{\operatorname{tg} x \pm \operatorname{tg} y}{1 \mp \operatorname{tg} x \operatorname{tg} y}$$

$$\operatorname{ctg}(x \pm y) = \frac{\operatorname{ctg} x \operatorname{ctg} y \mp 1}{\operatorname{ctg} y \pm \operatorname{ctg} x}$$

Funkcije višestrukih argumenata

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

$$\operatorname{tg} 2x = \frac{2 \operatorname{tg} x}{1 - \operatorname{tg}^2 x}$$

$$\operatorname{ctg} 2x = \frac{\operatorname{ctg}^2 x - 1}{2 \operatorname{ctg} x}$$

Formule pretvorbe

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

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

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

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

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

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

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

Funkcije polovičnih argumenata

$$\sin^2 \frac{x}{2} = \frac{1 - \cos x}{2}$$

$$\cos^2 \frac{x}{2} = \frac{1 + \cos x}{2}$$

Neke važne formule

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

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

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

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

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	$\operatorname{arch} x$	$\frac{1}{1-x^2}$
a^x	$a^x \ln a$		

Tablica integrala

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

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

$$\int a^x dx = \frac{a^x}{\ln a} + C$$

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

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

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

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

$$\int \frac{dx}{\cos^2 x} = \operatorname{tg} x + C$$

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

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

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

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

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

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

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

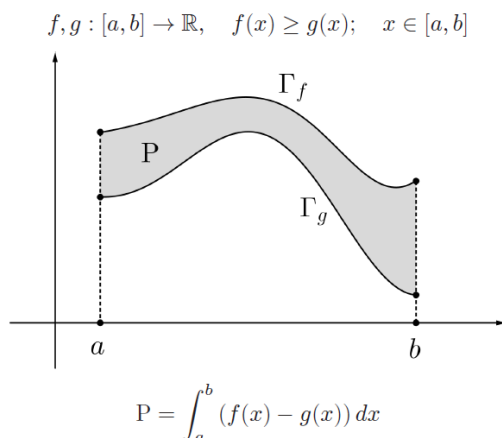
$$\int \frac{dx}{\operatorname{ch}^2 x} = \operatorname{th} x + C$$

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

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

POVRŠINE LIKOVA

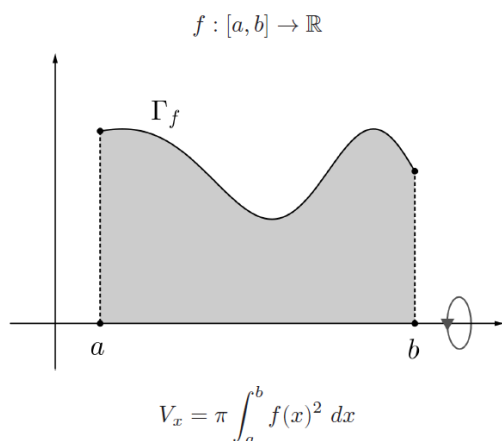
(a) Kartezijeve koordinate



VOLUMENI ROTACIJSKIH TIJELA

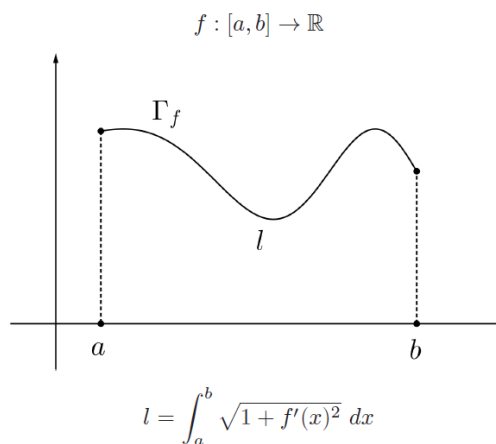
(a) Kartezijeve koordinate

(1) Rotira oko x -osi

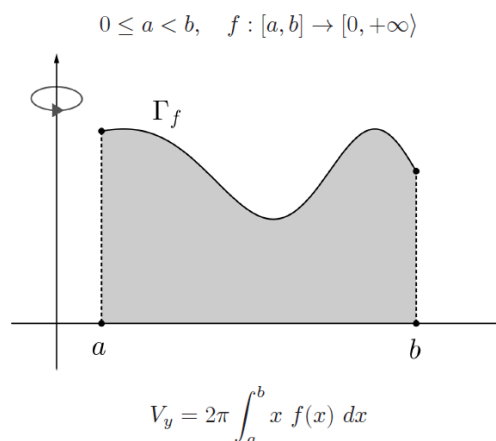


DULJINE LUKOVA KRIVULJA

(a) Kartezijeve koordinate



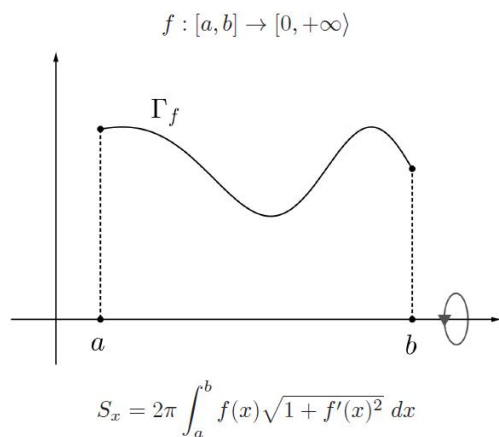
(2) Rotira oko y -osi



POVRŠINE ROTACIJSKIH PLOHA

(a) Kartezijeve koordinate

(1) Rotira oko x -osi



(2) Rotira oko y -osi

