

SLUŽBENI ŠALABAHTER

Tablica vrijednosti trigonometrijskih funkcija nekih kutova

t	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$
α	0°	30°	45°	60°	90°	180°	270°
sin	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	0	-1
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	-1	0
tg	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$\pm\infty$	0	$\pm\infty$
ctg	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$\pm\infty$	0

Formule pretvorbe iz radijana u stupnjeve i obrnuto

$$\alpha = \frac{180^\circ \cdot t}{\pi}$$

$$t = \frac{\alpha \cdot \pi}{180^\circ}$$

Osnovni trigonometrijski identiteti

$$\sin^2 x + \cos^2 x = 1$$

$$\operatorname{tg} x \cdot \operatorname{ctg} x = 1$$

$$\operatorname{tg} x = \frac{\sin x}{\cos x}$$

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

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

$$\operatorname{ctg} x = \frac{\cos x}{\sin x}$$

Parnost trigonometrijskih funkcija

$$\sin(-x) = -\sin x$$

$$\cos(-x) = \cos x$$

$$\operatorname{tg}(-x) = -\operatorname{tg} x$$

$$\operatorname{ctg}(-x) = -\operatorname{ctg} x$$

Adicijske formule

$$\sin(x \pm y) = \sin x \cos y \pm \cos x \sin y$$

$$\cos(x \pm y) = \cos x \cos y \mp \sin x \sin y$$

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

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

Redukcijske formule

$$\sin(\pi - x) = \sin x$$

$$\cos(\pi - x) = -\cos x$$

$$\operatorname{tg}(\pi - x) = -\operatorname{tg} x$$

$$\operatorname{ctg}(\pi - x) = -\operatorname{ctg} x$$

$$\sin(\pi + x) = -\sin x$$

$$\cos(\pi + x) = -\cos x$$

$$\operatorname{tg}(\pi + x) = \operatorname{tg} x$$

$$\operatorname{ctg}(\pi + x) = \operatorname{ctg} x$$

Trigonometrijske funkcije dvostrukog argumenta

$$\sin 2x = 2 \sin x \cos x$$

$$\cos 2x = \cos^2 x - \sin^2 x$$

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

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