

Szögfüggvények általánosítása

α	0°	30°	45°	60°	90°	120°	135°	150°	180°	210°	225°	240°	270°	300°	315°	330°	360°
	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	π	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{3\pi}{2}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	2π
sin	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
tg	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	-	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	-	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0
ctg	-	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	-	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	-

sin α
cos α
tg α
ctg α

sin $\alpha = \sin(180^\circ - \alpha)$
cos $\alpha = -\cos(180^\circ - \alpha)$
tg $\alpha = -\text{tg}(180^\circ - \alpha)$
ctg $\alpha = -\text{ctg}(180^\circ - \alpha)$

sin $\alpha = -\sin(\alpha - 180^\circ)$
cos $\alpha = -\cos(\alpha - 180^\circ)$
tg $\alpha = \text{tg}(\alpha - 180^\circ)$
ctg $\alpha = \text{ctg}(\alpha - 180^\circ)$

sin $\alpha = -\sin(360^\circ - \alpha)$
cos $\alpha = \cos(360^\circ - \alpha)$
tg $\alpha = -\text{tg}(360^\circ - \alpha)$
ctg $\alpha = -\text{ctg}(360^\circ - \alpha)$

$$\begin{aligned} \sin \alpha &= \sin(\alpha + k \cdot 360^\circ) & \text{tg } \alpha &= \text{tg}(\alpha + k \cdot 180^\circ) \\ \cos \alpha &= \cos(\alpha + k \cdot 360^\circ) & \text{ctg } \alpha &= \text{ctg}(\alpha + k \cdot 180^\circ) \end{aligned}$$

$$k \in \mathbb{Z}$$

$$\begin{aligned} \sin(-\alpha) &= -\sin \alpha & \text{tg}(-\alpha) &= -\text{tg}(\alpha) \\ \cos(-\alpha) &= \cos \alpha & \text{ctg}(-\alpha) &= -\text{ctg}(\alpha) \end{aligned}$$