

Sinus je neparna funkcija: $\sin(-\alpha) = -\sin \alpha$

Kosinus je parna funkcija: $\cos(-\alpha) = \cos \alpha$

Veze sa $\pi, \frac{\pi}{2}, 2\pi \dots$:

- $\sin(\pi - \alpha) = \sin \alpha$
- $\cos(\pi - \alpha) = -\cos \alpha$
- $\sin(\pi + \alpha) = -\sin \alpha$
- $\cos(\pi + \alpha) = -\cos \alpha$
- $\operatorname{tg}(\pi - \alpha) = -\operatorname{tg} \alpha$
- $\operatorname{ctg}(\pi - \alpha) = -\operatorname{ctg} \alpha$
- $\sin(2\pi - \alpha) = -\sin \alpha$
- $\cos(2\pi - \alpha) = \cos \alpha$
- $\operatorname{tg}(-\alpha) = -\operatorname{tg} \alpha$
- $\operatorname{ctg}(-\alpha) = -\operatorname{ctg} \alpha$
- $\sin(\frac{\pi}{2} - \alpha) = \cos \alpha$
- $\cos(\frac{\pi}{2} - \alpha) = \sin \alpha$
- $\operatorname{tg}(\frac{\pi}{2} - \alpha) = \operatorname{ctg} \alpha$
- $\operatorname{ctg}(\frac{\pi}{2} - \alpha) = \operatorname{tg} \alpha$

Periodičnost (za $k \in \mathbb{Z}$):

- $\sin(\alpha + 2k\pi) = \sin \alpha$
- $\cos(\alpha + 2k\pi) = \cos \alpha$
- $\operatorname{tg}(\alpha + k\pi) = \operatorname{tg} \alpha$
- $\operatorname{ctg}(\alpha + k\pi) = \operatorname{ctg} \alpha$

Identiteti:

- $\sin^2 \alpha + \cos^2 \alpha = 1$
- $\operatorname{tg} \alpha = \frac{\sin \alpha}{\cos \alpha}$
- $\operatorname{ctg} \alpha = \frac{\cos \alpha}{\sin \alpha}$

Dvostruki ugao:

- $\sin 2\alpha = 2 \sin \alpha \cos \alpha$
- $\cos 2\alpha = \cos^2 \alpha - \sin^2 \alpha$
- $\operatorname{tg} 2\alpha = \frac{2 \operatorname{tg} \alpha}{1 - \operatorname{tg}^2 \alpha}$
- $\operatorname{ctg} 2\alpha = \frac{\operatorname{ctg}^2 \alpha - 1}{2 \operatorname{ctg} \alpha}$

Trigonometrijske funkcije pola ugla:

- $\sin^2 \frac{\alpha}{2} = \frac{1 - \cos \alpha}{2}$
- $\cos^2 \frac{\alpha}{2} = \frac{1 + \cos \alpha}{2}$
- $\operatorname{tg}^2 \frac{\alpha}{2} = \frac{1 - \cos \alpha}{1 + \cos \alpha}$
- $\operatorname{ctg}^2 \frac{\alpha}{2} = \frac{1 + \cos \alpha}{1 - \cos \alpha}$

Proizvodi:

- $\cos \alpha \cos \beta = \frac{1}{2}(\cos(\alpha + \beta) + \cos(\alpha - \beta))$
- $\sin \alpha \sin \beta = \frac{1}{2}(\cos(\alpha - \beta) - \cos(\alpha + \beta))$
- $\sin \alpha \cos \beta = \frac{1}{2}(\sin(\alpha + \beta) + \sin(\alpha - \beta))$

Zbir trigonometrijskih funkcija:

- $\cos \alpha + \cos \beta = 2 \cos \frac{\alpha + \beta}{2} \cos \frac{\alpha - \beta}{2}$
- $\cos \alpha - \cos \beta = -2 \sin \frac{\alpha + \beta}{2} \sin \frac{\alpha - \beta}{2}$
- $\sin \alpha + \sin \beta = 2 \sin \frac{\alpha + \beta}{2} \cos \frac{\alpha - \beta}{2}$
- $\sin \alpha - \sin \beta = 2 \sin \frac{\alpha - \beta}{2} \cos \frac{\alpha + \beta}{2}$
- $\operatorname{tg} \alpha \pm \operatorname{tg} \beta = \frac{\sin(\alpha \pm \beta)}{\cos \alpha \cos \beta}$
- $\operatorname{ctg} \alpha \pm \operatorname{ctg} \beta = \frac{\sin(\beta \pm \alpha)}{\sin \alpha \sin \beta}$

Trigonometrijske funkcije od zbira uglova:

- $\cos(\alpha - \beta) = \cos \alpha \cos \beta + \sin \alpha \sin \beta$
- $\cos(\alpha + \beta) = \cos \alpha \cos \beta - \sin \alpha \sin \beta$
- $\sin(\alpha - \beta) = \sin \alpha \cos \beta - \cos \alpha \sin \beta$
- $\cos(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta$
- $\operatorname{tg}(\alpha \pm \beta) = \frac{\operatorname{tg} \alpha \pm \operatorname{tg} \beta}{1 \mp \operatorname{tg} \alpha \operatorname{tg} \beta}$
- $\operatorname{ctg}(\alpha \pm \beta) = \frac{\operatorname{ctg} \alpha \operatorname{ctg} \beta \mp 1}{\operatorname{ctg} \beta \pm \operatorname{ctg} \alpha}$