Svodjenje na I kvadrant – formulice

Iz II u I kvadrant

Važe formule za: $0 < \alpha < \dfrac{\pi}{2}$

$\sin\left(\dfrac{\pi}{2}+\alpha\right)=\cos\alpha$ odnosno $\boxed{\sin\left(90^0+\alpha\right)=\cos\alpha}$

$\cos\left(\dfrac{\pi}{2}+\alpha\right)=-\sin\alpha$ odnosno $\boxed{\cos\left(90^0+\alpha\right)=-\sin\alpha}$

$tg\left(\dfrac{\pi}{2}+\alpha\right)=-ctg\alpha$ odnosno $\boxed{tg\left(90^0+\alpha\right)=-ctg\alpha}$

$ctg\left(\dfrac{\pi}{2}+\alpha\right)=-tg\alpha$ odnosno $\boxed{ctg\left(90^0+\alpha\right)=-tg\alpha}$

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

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

$tg(\pi-\alpha)=-tg\alpha$

$ctg(\pi-\alpha)=-ctg\alpha$

odnosno:

$$\boxed{\begin{array}{l}\sin(180^0-\alpha)=\sin\alpha\\ \cos(180^0-\alpha)=-\cos\alpha\\ tg(180^0-\alpha)=-tg\alpha\\ ctg(180^0-\alpha)=-ctg\alpha\end{array}}$$

Iz III u I kvadrant

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

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

$tg(\pi+\alpha)=tg\alpha$

$ctg(\pi+\alpha)=ctg\alpha$

to jest:

$$\boxed{\begin{array}{l}\sin(180^0+\alpha)=-\sin\alpha\\ \cos(180^0+\alpha)=-\cos\alpha\\ tg(180^0+\alpha)=tg\alpha\\ ctg(180^0+\alpha)=ctg\alpha\end{array}}$$

$\sin\left(\dfrac{3\pi}{2}-\alpha\right)=-\cos\alpha$ tj. $\boxed{\sin\left(270^0-\alpha\right)=-\cos\alpha}$

$\cos\left(\dfrac{3\pi}{2}-\alpha\right)=-\sin\alpha$ tj. $\boxed{\cos\left(270^0-\alpha\right)=-\sin\alpha}$

$tg\left(\dfrac{3\pi}{2}-\alpha\right)=ctg\alpha$ tj. $\boxed{tg\left(270^0-\alpha\right)=ctg\alpha}$

$ctg\left(\dfrac{3\pi}{2}-\alpha\right)=tg\alpha$ tj $\boxed{ctg\left(270^0-\alpha\right)=tg\alpha}$

Iz IV u I kvadrant

$\sin\left(\dfrac{3\pi}{2}+\alpha\right)=-\cos\alpha$ tj. $\sin\left(270^0+\alpha\right)=-\cos\alpha$

$\cos\left(\dfrac{3\pi}{2}+\alpha\right)=\sin\alpha$ tj. $\cos\left(270^0+\alpha\right)=\sin\alpha$

$tg\left(\dfrac{3\pi}{2}+\alpha\right)=-ctg\alpha$ tj. $tg\left(270^0+\alpha\right)=-ctg\alpha$

$ctg\left(\dfrac{3\pi}{2}+\alpha\right)=-tg\alpha$ tj. $ctg\left(270^0+\alpha\right)=-tg\alpha$

Ako posmatramo negativan ugao $(-\alpha)$:

sin(-α) = - sinα cos(-α) = cosα tg(-α) = - tgα ctg(-α) = -ctg α

Ovo nam govori da je jedino $\cos\alpha$ parna funkcija (jer “uništava’’ minus a sve ostale su neparne)