

## ADICIJSKI IZREKI

$$\begin{aligned}\cos(\alpha + \beta) &= \cos \alpha \cos \beta - \sin \alpha \sin \beta \\ \cos(\alpha - \beta) &= \cos \alpha \cos \beta + \sin \alpha \sin \beta \\ \sin(\alpha + \beta) &= \sin \alpha \cos \beta + \cos \alpha \sin \beta \\ \sin(\alpha - \beta) &= \sin \alpha \cos \beta - \cos \alpha \sin \beta\end{aligned}$$

$$\begin{aligned}\tan(\alpha + \beta) &= \frac{\tan \alpha + \tan \beta}{1 - \tan \alpha \tan \beta} \\ \tan(\alpha - \beta) &= \frac{\tan \alpha - \tan \beta}{1 + \tan \alpha \tan \beta} \\ \cot(\alpha + \beta) &= \frac{\cot \alpha \cot \beta - 1}{\cot \alpha + \cot \beta} \\ \cot(\alpha - \beta) &= \frac{-\cot \alpha \cot \beta - 1}{\cot \alpha - \cot \beta}\end{aligned}$$

## PRETVARJANJE VSOTE KOTNIH FUNKCIJ V PRODUKT IN OBRATNO

$$\begin{aligned}\sin(a + b) + \sin(a - b) &= 2 \sin a \cos b \\ \sin(a + b) - \sin(a - b) &= 2 \cos a \sin b \\ \cos(a + b) + \cos(a - b) &= 2 \cos a \cos b \\ \sin x \cos y &= \frac{1}{2}(\sin(x + y) + \sin(x - y)) \\ \cos x \cos y &= \frac{1}{2}(\cos(x + y) + \cos(x - y)) \\ \sin x \sin y &= -\frac{1}{2}(\cos(x + y) - \cos(x - y))\end{aligned}$$

$$\begin{aligned}\sin x - \sin y &= 2 \cos \frac{x + y}{2} \sin \frac{x - y}{2} \\ \sin x + \sin y &= 2 \sin \frac{x + y}{2} \cos \frac{x - y}{2} \\ \cos x + \cos y &= 2 \cos \frac{x + y}{2} \cos \frac{x - y}{2} \\ \cos x - \cos y &= -2 \sin \frac{x + y}{2} \sin \frac{x - y}{2} \\ \tan \alpha + \tan \beta &= \frac{\sin(\alpha + \beta)}{\cos \alpha \cos \beta}\end{aligned}$$

## DVOJNI KOTI

$$\begin{aligned}\sin 2\alpha &= 2 \sin \alpha \cos \alpha \\ \cos 2\alpha &= \cos^2 \alpha - \sin^2 \alpha \\ \sin \frac{x}{2} &= \pm \sqrt{\frac{1 - \cos x}{2}} \\ \cos \frac{x}{2} &= \pm \sqrt{\frac{1 + \cos x}{2}} \\ \tan 2\alpha &= \frac{2 \tan \alpha}{1 - \tan^2 \alpha} \\ \cot 2\alpha &= \frac{\cot^2 \alpha - 1}{2 \cot \alpha}\end{aligned}$$

## KROŽNE FUNKCIJE

$$\begin{aligned}1 + \tan^2 x &= \frac{1}{\cos^2 x} \\ 1 + \cot^2 x &= \frac{1}{\sin^2 x} \\ \sin \alpha &= \cos\left(\frac{\pi}{2} - \alpha\right) \\ \cos \alpha &= \sin\left(\frac{\pi}{2} - \alpha\right) \\ \sin^2 \alpha + \cos^2 \alpha &= 1\end{aligned}$$