

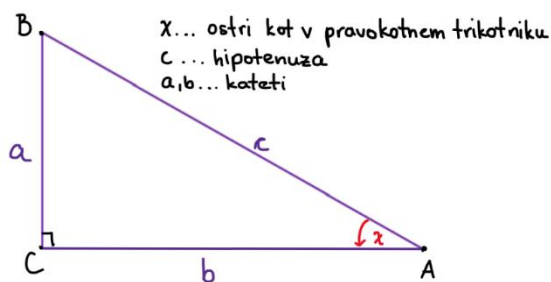
Kotne funkcije:

$$\sin x = \frac{\text{nasprotiležna kateta}}{\text{hipotenuza}}$$

$$\cos x = \frac{\text{priležna kateta}}{\text{hipotenuza}}$$

$$\tan x = \frac{\text{nasprotiležna kateta}}{\text{priležna kateta}}$$

$$\cot x = \frac{\text{priležna kateta}}{\text{nasprotiležna kateta}}$$



Osnovne zveze med kotnimi funkcijami:

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

$$\tan x = \frac{\sin x}{\cos x} \quad \cot x = \frac{\cos x}{\sin x} \quad \frac{1}{\tan x} = \cot x \quad \frac{1}{\cot x} = \tan x$$

$$\sin^2 x = \frac{1 - \cos 2x}{2} \quad \cos^2 x = \frac{1 + \cos 2x}{2}$$

Adicijski izreki:

$$\sin(x + y) = \sin x \cdot \cos y + \cos x \cdot \sin y$$

$$\tan(x + y) = \frac{\tan x + \tan y}{1 - \tan x \cdot \tan y}$$

$$\sin(x - y) = \sin x \cdot \cos y - \cos x \cdot \sin y$$

$$\tan(x - y) = \frac{\tan x - \tan y}{1 + \tan x \cdot \tan y}$$

$$\cos(x + y) = \cos x \cdot \cos y - \sin x \sin y$$

$$\cos(x - y) = \cos x \cdot \cos y + \sin x \sin y$$

Dvojni koti:

$$\sin 2\alpha = 2 \sin \alpha \cos \alpha$$

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

$$\tan 2\alpha = \frac{2 \tan \alpha}{1 - \tan^2 \alpha}$$

Polovični koti:

$$\sin \frac{\alpha}{2} = \pm \sqrt{\frac{1 - \cos \alpha}{2}} \quad \cos \frac{\alpha}{2} = \pm \sqrt{\frac{1 + \cos \alpha}{2}}$$

Faktorizacijske formule:

$$\sin \alpha + \sin \beta = 2 \sin \frac{\alpha + \beta}{2} \cdot \cos \frac{\alpha - \beta}{2}$$

$$\sin \alpha - \sin \beta = 2 \cos \frac{\alpha + \beta}{2} \cdot \sin \frac{\alpha - \beta}{2}$$

$$\cos \alpha + \cos \beta = 2 \cos \frac{\alpha + \beta}{2} \cdot \cos \frac{\alpha - \beta}{2}$$

$$\cos \alpha - \cos \beta = -2 \sin \frac{\alpha + \beta}{2} \cdot \sin \frac{\alpha - \beta}{2}$$

Defaktorizacijske formule:

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

$$\cos \alpha \cdot \cos \beta = \frac{1}{2} [\cos(\alpha + \beta) + \cos(\alpha - \beta)]$$

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

Naklonski kot premice:

$$k = \tan \alpha$$

Kot med premicama:

$$\tan \alpha = \left| \frac{k_2 - k_1}{1 + k_1 \cdot k_2} \right|$$