

① Snovni trigonometrijski identiteti

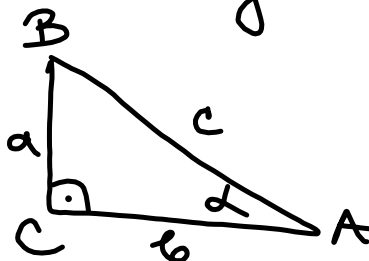
$$1. \sin^2 \alpha + \cos^2 \alpha = 1$$

Dokaz: $\left(\frac{a}{c}\right)^2 + \left(\frac{b}{c}\right)^2 = 1$

$$\frac{a^2}{c^2} + \frac{b^2}{c^2} = 1$$

$$\frac{a^2 + b^2}{c^2} = 1$$

$$\frac{c^2}{c^2} = 1 \quad \boxed{1=1} \quad \text{T}$$



$$2. \operatorname{tg} \alpha = \frac{\sin \alpha}{\cos \alpha}$$

$$\frac{a}{b} = \left(\frac{\frac{a}{c}}{\frac{b}{c}} \right)$$

$$\frac{a}{b} = \frac{a \cdot c}{b \cdot c}$$

$$\frac{a}{b} = \frac{a}{b} \quad \checkmark$$

$$3. \operatorname{ctg} \alpha = \frac{\cos \alpha}{\sin \alpha}$$

$$4. \operatorname{tg} \alpha \cdot \operatorname{ctg} \alpha = 1$$

$$\frac{a}{b} \cdot \frac{b}{a} = 1$$

$$1 = 1 \quad \checkmark$$

Pr.1: Izračunati preostale trigonometrijske funkcije

ako je:

a) $\sin \alpha = \frac{3}{5}$

b) $\cos \alpha = \frac{5}{13}$ **DOMAĆI**

c) $\operatorname{tg} \alpha = 2$

a) $\sin \alpha = \frac{3}{5}$

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

$$\left(\frac{3}{5}\right)^2 + \cos^2 \alpha = 1$$

$$\frac{9}{25} + \cos^2 \alpha = 1$$

$$\cos^2 \alpha = 1 - \frac{9}{25}$$

$$\cos^2 \alpha = \frac{25}{25} - \frac{9}{25}$$

$$\cos^2 \alpha = \frac{16}{25}$$

$$\cos \alpha = \sqrt{\frac{16}{25}}$$

$$\cos \alpha = \frac{4}{5}$$

$$\operatorname{tg} \alpha = \frac{\sin \alpha}{\cos \alpha}$$

$$\operatorname{tg} \alpha = \frac{\frac{3}{5}}{\frac{4}{5}} = \frac{18}{20}$$

$$\operatorname{tg} \alpha = \frac{3}{4}$$

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

$$\operatorname{tg} \alpha = \frac{\sin \alpha}{\cos \alpha}$$

$$\operatorname{ctg} \alpha = \frac{\cos \alpha}{\sin \alpha}$$

$$\operatorname{tg} \alpha \cdot \operatorname{ctg} \alpha = 1$$