

1. Izračunaj koristeći adicijske formule:

$$\begin{aligned} \cos 135^\circ &= \cos(90^\circ + 45^\circ) = \underbrace{\cos 90^\circ}_0 \cdot \cos 45^\circ - \sin 90^\circ \sin 45^\circ = \\ &= -\sin 90^\circ \sin 45^\circ = -\left(1 \cdot \frac{\sqrt{2}}{2}\right) = -\frac{\sqrt{2}}{2} \end{aligned}$$

$$\begin{aligned} \sin\left(-\frac{5\pi}{6}\right) &\stackrel{\text{PARNOST}}{=} -\sin\left(\frac{5\pi}{6}\right) = -\sin\left(\frac{\pi}{2} + \frac{\pi}{3}\right) = -\left(\sin\frac{\pi}{2} \cos\frac{\pi}{3} + \sin\frac{\pi}{3} \cos\frac{\pi}{2}\right) = \\ &= -\left(\sin\frac{\pi}{2} \cos\frac{\pi}{3}\right) = -\left(1 \cdot \frac{1}{2}\right) = -\frac{1}{2} \end{aligned}$$

$$\cos\frac{\pi}{7} \cos\frac{8\pi}{7} + \sin\frac{\pi}{7} \sin\frac{8\pi}{7} = \cos\left(\frac{\pi}{7} - \frac{8\pi}{7}\right) \stackrel{\text{PARNOST}}{=} \cos(-\pi) = \cos\pi = -1$$

$$\begin{aligned} \cos\frac{11\pi}{12} \sin\frac{17\pi}{12} - \sin\frac{11\pi}{12} \cos\frac{17\pi}{12} &= -\left(-\cos\frac{11\pi}{12} \sin\frac{17\pi}{12} + \sin\frac{11\pi}{12} \cos\frac{17\pi}{12}\right) = \\ &\quad \xrightarrow{\text{ZAMJENIMO MJESTA}} \\ &= -\left(\sin\frac{11\pi}{12} \cos\frac{17\pi}{12} - \cos\frac{11\pi}{12} \sin\frac{17\pi}{12}\right) = -\left(\sin\left(\frac{11\pi}{12} - \frac{17\pi}{12}\right)\right) = -\left(\sin\left(-\frac{6\pi}{12}\right)\right) = \end{aligned}$$

2. Izračunaj koristeći formule redukcije:

$$\sin\frac{9\pi}{12} = \sin\left(\frac{\pi}{2} + \frac{\pi}{4}\right) \stackrel{\text{RED.}}{=} -\cos\frac{\pi}{4} = -\frac{\sqrt{2}}{2}$$

$$\sin\left(\pi - \frac{\pi}{4}\right) = \sin\frac{\pi}{4} = \frac{\sqrt{2}}{2}$$

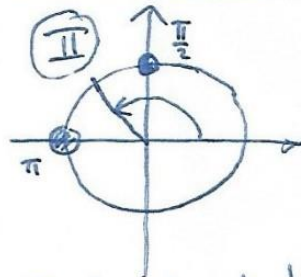
$$\cos\frac{9\pi}{12} = \text{sami izračunati}$$

$$\text{tg}\frac{9\pi}{12} = \text{sami izračunati}$$

$$\text{ctg}\frac{9\pi}{12} = \text{sami izračunati}$$

$$\begin{aligned} &= -\left(\sin\left(-\frac{\pi}{2}\right)\right) \stackrel{\text{PARNOST}}{=} -(-\sin\frac{\pi}{2}) = \\ &= \sin\frac{\pi}{2} = 1 \end{aligned}$$

$\frac{9\pi}{12}$



kut u II kvadrantu!

MOGUĆE ZAMJENE SU

$$1) \left(\frac{\pi}{2} + x\right) \quad \text{ili} \quad 2) (\pi - x)$$

$$\frac{9\pi}{12} = \frac{\pi}{2} + x$$

$$x = \frac{9\pi}{12} - \frac{\pi}{2} = \frac{9\pi - 6\pi}{12} = \frac{3\pi}{12} = \frac{\pi}{4}$$

$$2) \pi - x$$

$$\frac{9\pi}{12} = \pi - x$$

$$x = \frac{\pi}{4}$$

3. Izračunaj $\sin(x+y)$ ako je $\sin x = -\frac{3}{5}$, $\cos y = \frac{4}{5}$, $x \in \left(\pi, \frac{3\pi}{2}\right)$, $y \in \left(\frac{3\pi}{2}, 2\pi\right)$.

$$\begin{aligned}\sin(x+y) &= \sin x \cos y + \cos x \sin y = \\ &= \left(-\frac{3}{5}\right) \cdot \frac{4}{5} + \left(-\frac{4}{5}\right) \cdot \left(-\frac{3}{5}\right) = \\ &= -\frac{12}{25} + \frac{12}{25} = \underline{\underline{0}}\end{aligned}$$

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

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

$$\cos x = \pm \sqrt{1 - \sin^2 x}$$

$$\cos x = \pm \sqrt{1 - \frac{9}{25}}$$

$$\cos x = \pm \sqrt{\frac{16}{25}}$$

$$\cos x = \pm \frac{4}{5}$$

kosinus negativan u III kvadrantu

$$\sin y = \pm \sqrt{1 - \cos^2 y}$$

$$\sin y = \pm \sqrt{1 - \frac{16}{25}}$$

$$\sin y = \pm \sqrt{\frac{9}{25}}$$

$$\sin y = \pm \frac{3}{5}$$

sinus negativan u IV kvadrantu