

Zadatak 25. Ako je $\operatorname{ctg}(-x) = 1\frac{1}{3}$, $-\frac{3\pi}{2} < x < -\pi$, koliko je $\cos(-x)$?

Rješenje. $\operatorname{ctg}(-x) = 1\frac{1}{3} = \frac{4}{3}$

$$-\frac{3\pi}{2} < x < -\pi \implies x \in \left\langle \frac{\pi}{2}, \pi \right\rangle \text{ (II. kvadrant } \cos x < 0, \sin x > 0, \operatorname{ctg} x < 0)$$

$$\operatorname{ctg} x = -\operatorname{ctg}(-x) = -\frac{4}{3}$$

$$\operatorname{tg} x = \frac{1}{\operatorname{ctg} x} = -\frac{3}{4}$$

$$\cos(-x) = \cos x = -\sqrt{\frac{1}{1 + \operatorname{tg}^2 x}} = -\sqrt{\frac{1}{1 + \frac{9}{16}}} = -\sqrt{\frac{1}{\frac{25}{16}}} = -\sqrt{\frac{16}{25}} = -\frac{4}{5}.$$