

**Zadatak 18.** Ako je  $\sin x = \frac{8}{17}$ ,  $\sin y = \frac{15}{17}$ , te  $0 < x < \frac{\pi}{2}$ ,  $0 < y < \frac{\pi}{2}$ , onda je  $x + y = \frac{\pi}{2}$ . Dokaži!

**Rješenje.** Dovoljno je vidjeti  $\cos(x + y) = 0$ .

$$\cos x = \sqrt{1 - \sin^2 x} = \sqrt{1 - \frac{64}{289}} = \sqrt{\frac{225}{289}} = \frac{15}{17}$$

$$\cos y = \sqrt{1 - \sin^2 y} = \sqrt{1 - \frac{225}{289}} = \sqrt{\frac{64}{289}} = \frac{8}{17}$$

$$\begin{aligned}\cos(x + y) &= \cos x \cos y - \sin x \sin y = \frac{15}{17} \cdot \frac{8}{17} - \frac{8}{17} \cdot \frac{15}{17} = 0 \\ &\implies x + y = \frac{\pi}{2}.\end{aligned}$$