

Zadatak 13. Ako je $\sin x + \cos x = \frac{2}{3}$, koliko je $\operatorname{tg} x + \operatorname{ctg} x$?

Rješenje.

$$\sin x + \cos x = \frac{2}{3} \quad /^2$$

$$\sin^2 x + 2 \sin x \cdot \cos x + \cos^2 x = \frac{4}{9}$$

$$1 + 2 \sin x \cdot \cos x = \frac{4}{9}$$

$$\sin x \cdot \cos x = -\frac{5}{18}$$

$$\operatorname{tg} x + \operatorname{ctg} x = \frac{\sin x}{\cos x} + \frac{\cos x}{\sin x} = \frac{\sin^2 x + \cos^2 x}{\sin x \cdot \cos x} = \frac{1}{-\frac{5}{18}} = -\frac{18}{5}.$$