Zadatak 20. Ako je $\sin x + \cos x = p$, $|p| \leqslant \sqrt{2}$, $p \neq 1$, koliko je $\operatorname{tg} x + \operatorname{ctg} x$?

Rješenje.

$$p^2 = (\sin x + \cos x)^2 = \sin^2 x + 2\sin x \cos x + \cos^2 x = 1 + 2\sin x \cos x$$

$$\implies \sin x \cos x = \frac{p^2 - 1}{2}$$

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