Zadatak 30. Ako je $\operatorname{tg} x + \operatorname{tg} y = 25$, $\operatorname{ctg} x + \operatorname{ctg} y = 30$, koliko je $\operatorname{tg}(x+y)$?

Rješenje.

$$\operatorname{ctg} x + \operatorname{ctg} y = \frac{1}{\operatorname{tg} x} + \frac{1}{\operatorname{tg} y} = \frac{\operatorname{tg} x + \operatorname{tg} y}{\operatorname{tg} x \cdot \operatorname{tg} y} = \frac{25}{\operatorname{tg} x \cdot \operatorname{tg} y} = 30 \implies \operatorname{tg} x \cdot \operatorname{tg} y = \frac{25}{30}$$

$$\operatorname{tg}(x+y) = \frac{\operatorname{tg} x + \operatorname{tg} y}{1 - \operatorname{tg} x \cdot \operatorname{tg} y} = \frac{25}{1 - \frac{25}{30}} = \frac{25}{\frac{5}{30}} = 150.$$