

$$\begin{aligned}\frac{\operatorname{ctg}\alpha + \operatorname{ctg}\beta}{\operatorname{ctg}\alpha - \operatorname{ctg}\beta} &= \frac{\frac{\cos\alpha}{\sin\alpha} + \frac{\cos\beta}{\sin\beta}}{\frac{\cos\alpha}{\sin\alpha} - \frac{\cos\beta}{\sin\beta}} = \frac{\cos\alpha \sin\beta + \sin\alpha \cos\beta}{\cos\alpha \sin\beta - \sin\alpha \cos\beta} = \\ &= \frac{\sin(\alpha + \beta)}{-\sin(\alpha - \beta)} = -\frac{\sin(\alpha + \beta)}{\sin(\alpha - \beta)},\end{aligned}$$

tehát

$$\frac{\operatorname{ctg}\alpha + \operatorname{ctg}\beta}{\operatorname{ctg}\alpha - \operatorname{ctg}\beta} + \frac{\sin(\alpha + \beta)}{\sin(\alpha - \beta)} = 0.$$

(Spitzer Leó, Budapest, V. ker.)

Megoldások száma: 18.