

$$(1 + \operatorname{tg}\alpha)(1 + \operatorname{tg}\beta)(1 + \operatorname{tg}\gamma) =$$

$$= 1 + \operatorname{tg}\alpha + \operatorname{tg}\beta + \operatorname{tg}\gamma + \operatorname{tg}\alpha \operatorname{tg}\beta + \operatorname{tg}\beta \operatorname{tg}\gamma + \operatorname{tg}\gamma \operatorname{tg}\alpha + \operatorname{tg}\alpha \operatorname{tg}\beta \operatorname{tg}\gamma.$$

De

$$1 = \operatorname{tg}(\alpha + \beta + \gamma) = \frac{\operatorname{tg}\alpha + \operatorname{tg}(\beta + \gamma)}{1 - \operatorname{tg}\alpha \operatorname{tg}(\beta + \gamma)} =$$

$$= \frac{\operatorname{tg}\alpha + \operatorname{tg}\beta + \operatorname{tg}\gamma - \operatorname{tg}\alpha \operatorname{tg}\beta \operatorname{tg}\gamma}{1 - (\operatorname{tg}\alpha \operatorname{tg}\beta + \operatorname{tg}\beta \operatorname{tg}\gamma + \operatorname{tg}\beta \operatorname{tg}\alpha)},$$

vagy

$$1 - (\operatorname{tg}\alpha \operatorname{tg}\beta + \operatorname{tg}\beta \operatorname{tg}\gamma + \operatorname{tg}\gamma \operatorname{tg}\alpha) = \operatorname{tg}\alpha + \operatorname{tg}\beta + \operatorname{tg}\gamma - \operatorname{tg}\alpha \operatorname{tg}\beta \operatorname{tg}\gamma,$$

azaz

$$\operatorname{tg}\alpha + \operatorname{tg}\beta + \operatorname{tg}\gamma + \operatorname{tg}\alpha \operatorname{tg}\beta + \operatorname{tg}\beta \operatorname{tg}\gamma + \operatorname{tg}\gamma \operatorname{tg}\alpha = 1 + \operatorname{tg}\alpha \operatorname{tg}\beta \operatorname{tg}\gamma,$$

s így

$$\frac{(1 + \operatorname{tg}\alpha)(1 + \operatorname{tg}\beta)(1 + \operatorname{tg}\gamma)}{1 + \operatorname{tg}\alpha \operatorname{tg}\beta \operatorname{tg}\gamma} = \frac{2(1 + \operatorname{tg}\alpha \operatorname{tg}\beta \operatorname{tg}\gamma)}{1 + \operatorname{tg}\alpha \operatorname{tg}\beta \operatorname{tg}\gamma} = 2.$$

(Kubinyi István, Nagyszombat.)