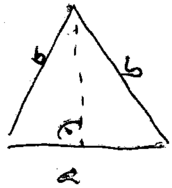
$K = 2$

$T$ max. ?




$m = \sqrt{b^2 - \left(\frac{a}{2}\right)^2}$

$$T = \frac{a \cdot \sqrt{b^2 - \left(\frac{a}{2}\right)^2}}{2}$$ maximuma ott van, ahol

$T^2$-nek $\Rightarrow$

$$T^2 = \frac{1}{4} a^2 \left(b^2 - \left(\frac{a}{2}\right)^2\right) = \frac{1}{16}\, a \cdot a \cdot (2b - a)(2b + a) =$$

$$= \frac{1}{16 \cdot \alpha\beta\gamma} \cdot \left(\sqrt[4]{\alpha \cdot a \cdot \alpha a \cdot \beta(2b-a)\gamma(2b+a)}\right)^4 \leq$$

$$\leq \frac{1}{16\alpha\beta\gamma} \left(\frac{\alpha a + \alpha a + \beta(2b-a) + \gamma(2b+a)}{4}\right)^4 =$$

$$= \frac{1}{16\alpha\beta\gamma} \; \frac{K^4}{64}$$

Már csak $\alpha, \beta, \gamma$ értékét kell megállapítani, hogy az egyenlőség is fennállhasson. $\Rightarrow$

$$\alpha a + \alpha a + \beta(2b - c) + \gamma(2b + a) = 2b + c = K \text{ kell}$$

valamint: $\alpha a = \beta(2b - c) = \gamma(2b + a)$

$$\Rightarrow \begin{cases} 2\alpha - \beta + \gamma = 1 & \text{(„a" miatt)} \\ 2\beta + 2\gamma = 2 & \text{(„b" miatt)} \\ \alpha\beta - \gamma\beta = \alpha\gamma + \beta\gamma \end{cases} \longleftarrow \begin{cases} 2\beta b - \beta c = \alpha c \\ 2\gamma b - \gamma a = \alpha c \end{cases}$$

$\text{II.} \Rightarrow \gamma = 1 - \beta$

$$\begin{cases} 2\beta b = (\alpha + \beta)c \\ 2\gamma b = (\alpha - \gamma)c \end{cases}$$

$$\frac{\beta}{\gamma} = \frac{\alpha + \beta}{\alpha - \gamma}$$

$$\alpha\beta - \gamma\beta = \alpha\gamma + \beta\gamma$$

$\text{II.} \longrightarrow \text{I.}: 2\alpha - \beta + 1 - \beta = 1$

$\Rightarrow \alpha = \beta$

$\Rightarrow \text{III.}: \beta^2 - (1 - \beta)\beta = \beta(1 - \beta) \cdot 2$

$\beta - 1 + \beta = 2 - 2\beta$

$4\beta = 3$

$\beta = \frac{3}{4} \Rightarrow \alpha = \frac{3}{4} \Rightarrow \gamma = \frac{1}{4}$

és ezek jók, ki lehet próbálni! ;)