

Úloha 16

Podmínky řešitelnosti:

$$a + \frac{t_b}{2 \sin \alpha} \geq \frac{t_b}{2 \operatorname{tg} \alpha} \sqrt{1 + 9 \operatorname{tg}^2 \alpha} \geq \left| a - \frac{t_b}{2 \sin \alpha} \right|$$

Počet řešení:

1, je-li $\left[\left(\frac{\pi}{2} \leq \alpha < \pi \right) \wedge (t_b < a < 2t_b) \right] \vee \left[\left(\alpha < \frac{\pi}{2} \right) \wedge (2t_b \geq a \geq t_b) \right]$

2, je-li

$$\left(\alpha < \frac{\pi}{2} \right) \wedge \left\{ \left[\left(\frac{t_b}{2 \operatorname{tg} \alpha} \sqrt{1 + 9 \operatorname{tg}^2 \alpha} - \frac{t_b}{2 \sin \alpha} \right) < a < t_b \right] \vee \left[2t_b < a < \left(\frac{t_b}{2 \operatorname{tg} \alpha} \sqrt{1 + 9 \operatorname{tg}^2 \alpha} + \frac{t_b}{2 \sin \alpha} \right) \right] \right\}$$