

B

4) Řešte v  $\mathbb{R}$ , určete podmínky řešitelnosti

$$\operatorname{tg} x + \cot x = 2$$

$$\text{vzorec : } \cot x = \frac{1}{\operatorname{tg} x}$$

$$\operatorname{tg} x + \frac{1}{\operatorname{tg} x} = 2$$

$$\operatorname{tg}^2 x + 1 = 2 \operatorname{tg} x$$

$$\operatorname{tg}^2 x - 2 \operatorname{tg} x + 1 = 0$$

$$\operatorname{tg} x = t$$

$$t^2 - 2t + 1 = 0$$

$$(t-1)^2 = 0 \Rightarrow t = 1$$

$$\operatorname{tg} x = 1 \Rightarrow x = \frac{\pi}{4} + k\pi$$

Podmínka:

$$x \neq \frac{\pi}{2} + k\pi \wedge x \neq k\pi$$

$$P = \left\{ \frac{\pi}{4} + k\pi \right\}, \quad k \in \mathbb{Z}$$

[Zpět:](#)