

D

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

$$3 \operatorname{tg}^2 x - 2\sqrt{3} \operatorname{tg} x - 3 = 0$$

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

$$3t^2 - 2\sqrt{3}t - 3 = 0$$

$$D = 12 + 36 = 48$$

$$t_{1,2} = \frac{2\sqrt{3} \pm 4\sqrt{3}}{6} \Rightarrow t_1 = \sqrt{3}, \quad t_2 = -\frac{\sqrt{3}}{3}$$

$$\operatorname{tg} x = \sqrt{3} \Rightarrow x = \frac{\pi}{3} + k\pi$$

$$\operatorname{tg} x = -\frac{\sqrt{3}}{3} \Rightarrow x = \frac{5\pi}{6} + k\pi$$

Podmínka:

$$x \neq \frac{\pi}{2} (2k+1)$$

$$P = \left\{ \frac{\pi}{3} + k\pi, \quad \frac{5\pi}{6} + k\pi \right\}, k \in \mathbb{Z}$$

[Zpět:](#)

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