

2) Řešte základní goniometrické rovnice:

rovnice	úpravy	$x_0$	Kvadrant	Výsledek
a) $\sin x = -\frac{\sqrt{3}}{2}$	$\sin x = \frac{\sqrt{3}}{2}$	$\frac{\pi}{3}$	III., IV.	$x \in \left\{ \frac{4\pi}{3} + k2\pi, \frac{5\pi}{3} + k2\pi \right\}$ $k \in \mathbb{Z}$
b) $3\operatorname{tg} x = \sqrt{3}$	$3\operatorname{tg} x = \sqrt{3}$ $\operatorname{tg} x = \frac{\sqrt{3}}{3}$	$\frac{\pi}{6}$	I.	$x \in \left\{ \frac{\pi}{6} + k\pi \right\}$ $k \in \mathbb{Z}$
c) $\cos 2x = \frac{\sqrt{2}}{2}$	$2x = a$ $\cos a = \frac{\sqrt{2}}{2}$ $a_1 = \frac{\pi}{4} + k2\pi \Rightarrow x_1 = \frac{\pi}{8} + k\pi$ $a_{12} = \frac{7\pi}{4} + k2\pi \Rightarrow x_2 = \frac{7\pi}{8} + k\pi$		I., IV.	$x \in \left\{ \frac{\pi}{8} + k\pi, \frac{7\pi}{8} + k\pi \right\}$ $k \in \mathbb{Z}$
d) $4 \sin 7x = -5$	$4 \sin 7x = -5$ $\sin 7x = -\frac{5}{4}$			$\emptyset$
e) $\sqrt{3} \cotg 2x = -1$	$\sqrt{3} \cotg 2x = -1$ $\cotg 2x = -\frac{\sqrt{3}}{3}$ $2x = a$ $\cotg a = -\frac{\sqrt{3}}{3}, a_0 = \frac{\pi}{3}$ $a = \frac{2\pi}{3} + k\pi \Rightarrow x = \frac{\pi}{3} + k\frac{\pi}{2}$		II.	$x \in \left\{ \frac{\pi}{3} + k\frac{\pi}{2} \right\}$ $k \in \mathbb{Z}$
f) $\cotg^2 x + \cotg x = 0$	$\cotg^2 x + \cotg x = 0$ $\cotg x \cdot (\cotg x + 1) = 0$ $\cotg x = 0 \vee \cotg x = -1$	$x_{01} = \frac{\pi}{2}$ $x_{02} = \frac{\pi}{4}$	- II.	$x \in \left\{ \frac{\pi}{2} + k\pi, \frac{3\pi}{4} + k\pi \right\}$ $k \in \mathbb{Z}$

[Zpět:](#)