

2) Řešte základní goniometrické rovnice:

rovnice	úpravy	$x_0$	Kvadrant	Výsledek
a) $\cos x = -\frac{\sqrt{2}}{2}$	$\cos x_0 = \frac{\sqrt{2}}{2}$	$\frac{\pi}{4}$	II., III.	$x \in \left\{ \frac{3\pi}{4} + k2\pi, \frac{5\pi}{4} + k2\pi \right\}$ $k \in \mathbb{Z}$
b) $-\sqrt{3} \operatorname{tg} x = \sqrt{3}$	$-\sqrt{3} \operatorname{tg} x = \sqrt{3}$ $\operatorname{tg} x = -1$	$\frac{\pi}{4}$	II.	$x \in \left\{ \frac{3\pi}{4} + k\pi \right\}$ $k \in \mathbb{Z}$
c) $\sin 3x = \frac{\sqrt{3}}{2}$	$3x = a$ $\sin a = \frac{\sqrt{3}}{2}$ $a_1 = \frac{\pi}{3} + k2\pi \Rightarrow x_1 = \frac{\pi}{9} + k\frac{2\pi}{3}$ $a_2 = \frac{2\pi}{3} + k2\pi \Rightarrow x_2 = \frac{2\pi}{9} + k\frac{2\pi}{3}$		I., II.	$x \in \left\{ \frac{\pi}{9} + k\frac{2\pi}{3}, \frac{2\pi}{9} + k\frac{2\pi}{3} \right\}$ $k \in \mathbb{Z}$
d) $3 \cos 6x = -4$	$3 \cos 6x = -4$ $\cos 6x = -\frac{4}{3}$			$\emptyset$
e) $-\sqrt{3} \operatorname{tg} 2x = 1$	$-\sqrt{3} \operatorname{tg} 2x = 1, 2x = a$ $\operatorname{tga} = -\frac{\sqrt{3}}{3}$ $a = \frac{5\pi}{6} + k\pi \Rightarrow x = \frac{5\pi}{12} + k\frac{\pi}{2}$		II.,	$x \in \left\{ \frac{5\pi}{6} + k\frac{\pi}{2} \right\}$ $k \in \mathbb{Z}$
f) $\operatorname{tg}^2 x - \operatorname{tg} x = 0$	$\operatorname{tg}^2 x - \operatorname{tg} x = 0$ $\operatorname{tg} x \cdot (\operatorname{tg} x - 1) = 0$ $\operatorname{tg} x = 0 \vee \operatorname{tg} x = 1$	$0$ $\frac{\pi}{4}$	-- I.	$x \in \left\{ 0 + k\pi, \frac{\pi}{4} + k\pi \right\}$ $k \in \mathbb{Z}$

[Zpět:](#)