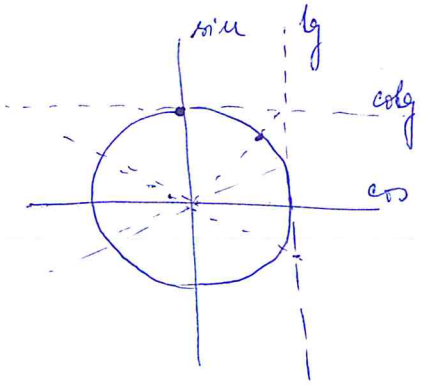
Goniom. I – cvičení 4 – řešení:



(A) 1) $\rightarrow \sin x = -\frac{1}{2} \rightarrow \boxed{x = \frac{7\pi}{6};\ \frac{11\pi}{6}}$

2) $\rightarrow \operatorname{colg} x\,(\operatorname{colg} x - 1) = 0 \Leftrightarrow$

$\operatorname{colg} x = 0 \ \vee \ \operatorname{colg} x = 1$

$\boxed{x = \frac{\pi}{4};\ \frac{\pi}{2};\ \frac{5\pi}{4};\ \frac{3\pi}{2}}$

3) $\rightarrow \operatorname{tg} x = -\frac{\sqrt{3}}{3} \rightarrow \boxed{x = \frac{5\pi}{6};\ \frac{11\pi}{6}}$

4) $\Leftrightarrow \cos x = -\frac{\sqrt{3}}{2} \ \vee \ \sin x = 0$

$\boxed{x = \frac{5\pi}{6};\ \frac{7\pi}{6};\ 0;\ \pi}$

5) $\rightarrow \operatorname{tg} x \cdot \left(\operatorname{tg} x - \frac{1}{\sqrt{3}}\right) = 0 \Leftrightarrow \operatorname{tg} x = 0 \ \vee \ \operatorname{tg} x = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

$\boxed{x = 0;\ \pi;\ \frac{\pi}{6};\ \frac{7\pi}{6}}$

(B) 1) $\sin x \neq -1 \rightarrow \boxed{x \neq \frac{3\pi}{2}}$

2) $\cos x \neq 0 \ \wedge$ colg x je definováno pro $x \neq 0;\ \pi$

$\boxed{x \neq \frac{\pi}{2};\ \frac{3\pi}{2};\ 0;\ \pi}$

3) $\operatorname{tg} x \neq 0 \ \wedge$ tg je def. pro $x \neq \frac{\pi}{2};\ \frac{3\pi}{2}$

$\boxed{x \neq 0;\ \pi;\ \frac{\pi}{2};\ \frac{3\pi}{2}}$