

2.NA-DÚ č.4 - PŘÍKLADY K OPAKOVÁNÍ GONIOMETRIE

1. VYPOČTĚTE

a. $3 \cdot \cos \frac{\pi}{4} - 3 \cdot \sin \frac{\pi}{4} + 2 \cdot \cos \frac{\pi}{3} - \sin \frac{\pi}{6} =$

b. $2 \cdot \cos \frac{\pi}{2} - 5 \cdot \sin \pi + 6 \cdot \cos \pi =$

c. $-3 \cdot \sin 0^\circ + 7 \cdot \cos 0^\circ - 6 \cdot \sin 270^\circ =$

d. $2 \cdot \operatorname{tg} + \sin \pi - \cos \frac{3}{2} \pi - \cot g \frac{\pi}{2} =$

e. $\operatorname{tg} 30^\circ \cdot \cot g 30^\circ - \sin 30^\circ \cdot \operatorname{tg} 60^\circ =$

f. $6 \cdot \cot g \frac{3}{2} \pi - 5 \cdot \sin 2\pi + 2 \cdot \cos \pi =$

g. $3 \cdot \cos \frac{\pi}{2} - 4 \cdot \sin \frac{3}{2} \pi + 8 \cdot \operatorname{tg} \pi =$

2. ZJISTĚTE, KTERÁ Z UVEDENÝCH ČÍSEL JSOU Kladná, záporná, nula :

a. $\cos \frac{\pi}{3} \cdot \cos \frac{2}{3} \pi \cdot \cos \left(-\frac{2}{3} \pi \right) =$

b. $\sin \frac{\pi}{3} \cdot \cos \frac{111}{3} \pi \cdot \cos \left(-\frac{\pi}{2} \right) =$

3. NAČRTNĚTE GRAF FCE :

a. $f_1 : y = 0,5 \cdot \sin(2x + \pi)$

b. $f_2 : y = 0,5 \cdot \sin(2x + \pi) - 1$

c. $f_3 : y = 1,5 \cdot \cos x + 2$

4. VYPOČTĚTE :

1. $\sin \frac{5}{6} \pi =$

$\cos(-180^\circ) =$

2. $\cos 2400^\circ =$

$\sin \frac{17}{3} \pi =$

3. $\sin 1710^\circ =$

$\cos \frac{17}{3} \pi =$

4. $(\sin 30^\circ - \cos 30^\circ) - (\cos 60^\circ - \cos 30^\circ) =$

$\sin \frac{\pi}{6} \cdot \cos \frac{\pi}{3} - \cos \frac{\pi}{6} \cdot \sin \frac{\pi}{3} =$

$\left[\frac{1}{2} \right]$

$[-1]$

$\left[-\frac{1}{2} \right]$

$\left[-\frac{\sqrt{3}}{2} \right]$

$[-1]$

$\left[\frac{1}{2} \right]$

$[0]$

$\left[-\frac{1}{2} \right]$

$$4 \cdot \sin \frac{\pi}{6} - 2 \cdot \cos \frac{\pi}{6} = [2 - \sqrt{3}]$$

$$\frac{\sin 60^\circ - \sin 30^\circ}{\sin 60^\circ + \sin 30^\circ} = \left[\frac{\sqrt{3} - 1}{\sqrt{3} + 1} \right]$$

$$\frac{\sin \frac{\pi}{4} - \sin \frac{\pi}{6}}{\cos \frac{\pi}{4} + \cos \frac{\pi}{3}} = \left[\frac{\sqrt{2} - 1}{\sqrt{2} + 1} \right]$$

$$\left(\cos \frac{\pi}{6} - \cos \frac{\pi}{4} \right) \cdot \left(\sin \frac{\pi}{3} + \sin \frac{\pi}{4} \right) = \left[\frac{1}{4} \right]$$

5. ÚPRAVY VÝRAZŮ

$$\text{a. } \frac{\cos 2x}{\sin x + \cos x} = [\cos x - \sin x]$$

$$\text{b. } \frac{1 - \operatorname{tg}^2 x}{\cos 2x} = \left[\frac{1}{\cos^2 x} \right]$$

$$\text{c. } \cos 2x + \sin 2x \cdot \operatorname{tg} x = [1]$$

$$\text{d. } \frac{1}{\cos^2 x} - \operatorname{tg}^2 x = [1]$$

$$\text{e. } \frac{2 \cdot \operatorname{tg} x}{1 + \operatorname{tg}^2 x} = [\sin 2x]$$

$$\text{f. } \frac{\sin 2x - \cos x}{1 - \cos 2x - \sin x} = [\cot gx]$$

$$\text{g. } \frac{\cos 2x + \sin^2 x}{1 + \cos 2x} = \left[\frac{1}{2} \right]$$