

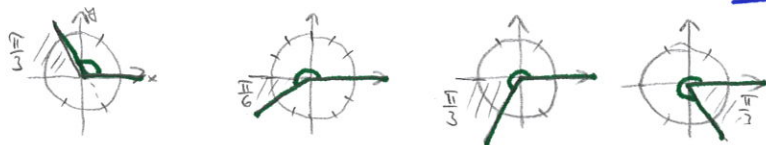
GONIOMETRIE - HODNOTY GONIOM. FUNKCÍ

Př1 Vypočítejte: a) $3\cos\frac{\pi}{4} - 3\sin\frac{\pi}{4} + 2(\cos\frac{\pi}{3} - \sin\frac{\pi}{6}) =$
 $= 3 \cdot \frac{\sqrt{2}}{2} - 3 \cdot \frac{\sqrt{2}}{2} + 2 \cdot (\frac{1}{2} - \frac{1}{2}) = 2 \cdot 0 = \underline{0}$

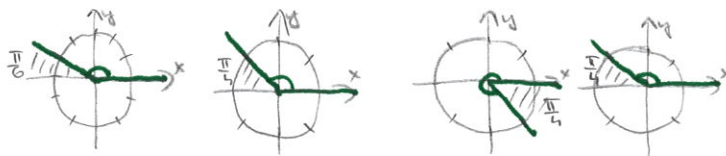
b) $\sin 45^\circ \cdot \cos 45^\circ - \operatorname{tg} 45^\circ \cdot \operatorname{ctg} 45^\circ =$
 $= \frac{\sqrt{2}}{2} \cdot \frac{\sqrt{2}}{2} - 1 \cdot 1 = \frac{2}{4} - 1 = \frac{1}{2} - 1 = \underline{\underline{-\frac{1}{2}}}$

c) $2\operatorname{tg} 0 + \sin \pi - \cos \frac{3}{2}\pi - \operatorname{ctg} \frac{\pi}{2} =$
 $= 2 \cdot 0 + 0 - 0 - 0 = \underline{0}$

d) $\operatorname{tg} \frac{2}{3}\pi \cdot \operatorname{ctg} \frac{7}{6}\pi - \sin \frac{4}{3}\pi \cdot \cos \frac{5}{3}\pi =$
 $= -\sqrt{3} \cdot \sqrt{3} - (-\frac{\sqrt{3}}{2}) \cdot \frac{1}{2} = -3 + \frac{\sqrt{3}}{4} = \underline{\underline{\frac{-12+\sqrt{3}}{4}}}$

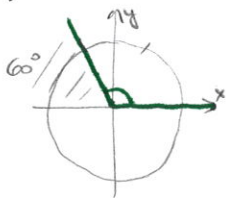


e) $\sin \frac{5}{6}\pi \cdot \operatorname{tg} \frac{3}{4}\pi - \cos \frac{7}{4}\pi \cdot \operatorname{ctg} \frac{3}{4}\pi =$
 $= \frac{1}{2} \cdot (-1) - \frac{\sqrt{2}}{2} \cdot (-1) = -\frac{1}{2} + \frac{\sqrt{2}}{2} = \underline{\underline{\frac{-1+\sqrt{2}}{2}}}$

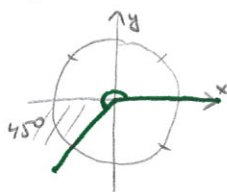


Př2 Určete hodnoty daných funkcí:

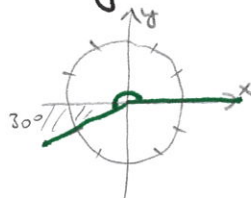
a) $\sin 120^\circ = \frac{\sqrt{3}}{2}$



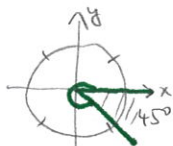
b) $\cos 225^\circ = -\frac{\sqrt{2}}{2}$



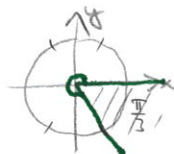
c) $\operatorname{tg} 210^\circ = \frac{\sqrt{3}}{3}$



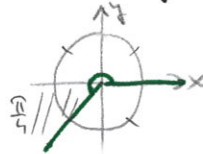
d) $\operatorname{ctg} 315^\circ = (-1)$



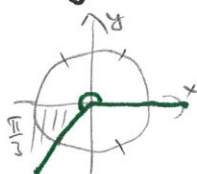
e) $\sin \frac{5}{3}\pi = -\frac{\sqrt{3}}{2}$



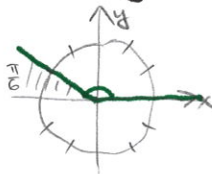
f) $\cos \frac{5}{4}\pi = -\frac{\sqrt{2}}{2}$



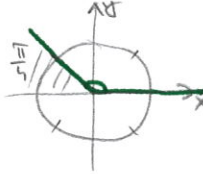
g) $\operatorname{tg} \frac{4}{3}\pi = \sqrt{3}$



h) $\operatorname{ctg} \frac{5}{6}\pi = -\sqrt{3}$



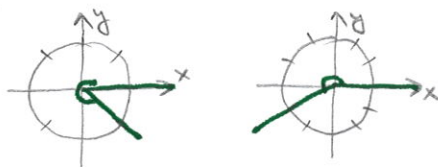
i) $\sin \frac{3}{4}\pi = \frac{\sqrt{2}}{2}$



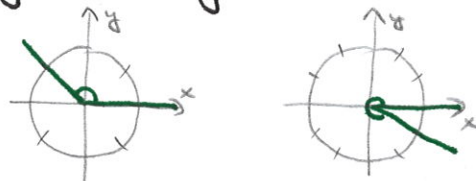
Pr3

Vypočítejte :

a) $\sin \frac{7}{4}\pi \cdot \cos \frac{7}{6}\pi = \frac{-\sqrt{2}}{2} \cdot \frac{-\sqrt{3}}{2} = \frac{\sqrt{6}}{4}$



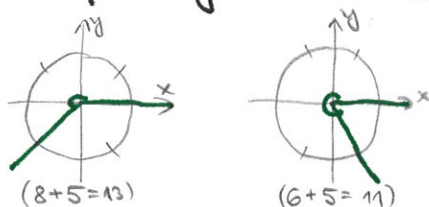
b) $\tan \frac{3}{4}\pi \cdot \cot \frac{11}{6}\pi = -1 \cdot (-\sqrt{3}) = \sqrt{3}$



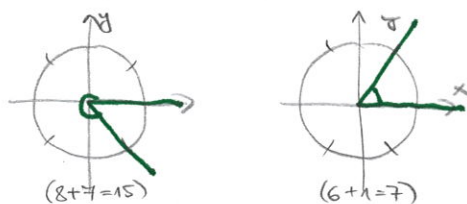
c) $\sin \frac{\pi}{2} \cdot \tan \frac{3}{2}\pi = 1 \cdot \text{nem def.} = \text{---}$

d) $\cos \frac{3}{2}\pi \cdot \cot \frac{\pi}{2} = 0 \cdot 0 = 0$

e) $\cos \frac{13}{4}\pi \cdot \tan \frac{11}{3}\pi = \frac{-\sqrt{2}}{2} \cdot (-\sqrt{3}) = \frac{\sqrt{6}}{2}$



f) $\sin \frac{15}{4}\pi \cdot \cos \frac{7}{3}\pi = \frac{-\sqrt{2}}{2} \cdot \frac{1}{2} = \frac{-\sqrt{2}}{4}$

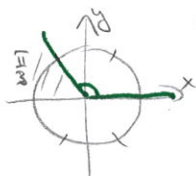


Pr4

Vypočítejte :

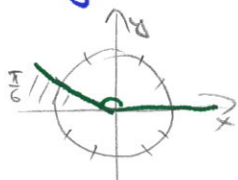
a) $\sin \left(-\frac{2}{3}\pi\right) =$

$= -\sin \frac{2}{3}\pi = -\frac{\sqrt{3}}{2}$



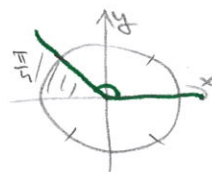
c) $\tan \left(-\frac{5}{6}\pi\right) =$

$= -\tan \frac{5}{6}\pi = -\left(-\frac{\sqrt{3}}{3}\right) = \frac{\sqrt{3}}{3}$



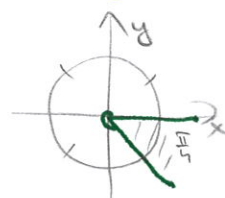
b) $\cos \left(-\frac{3}{4}\pi\right) =$

$= \cos \frac{3}{4}\pi = \frac{-\sqrt{2}}{2}$



d) $\cot \left(-\frac{7}{4}\pi\right) =$

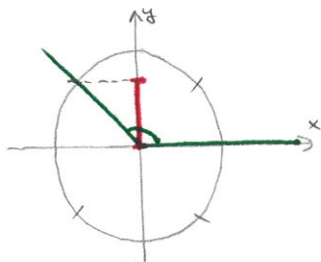
$= -\cot \frac{7}{4}\pi = -(-1) = 1$



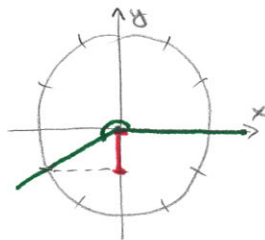
Pr5

Určete graficky:

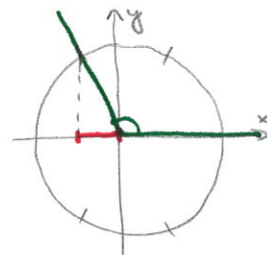
a) $\sin \frac{3}{4}\pi$



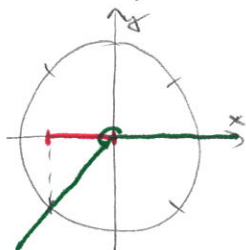
b) $\sin \frac{7}{6}\pi$



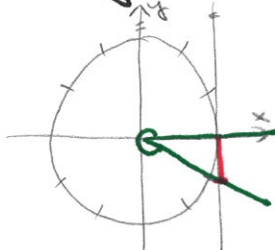
c) $\cos \frac{2}{3}\pi$



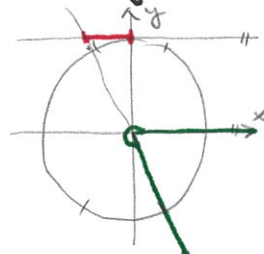
d) $\cos \frac{5}{4}\pi$



e) $\tan \frac{11}{6}\pi$



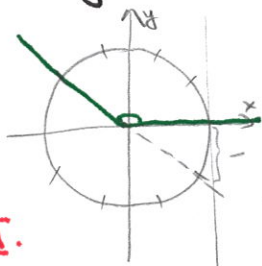
f) $\cotg \frac{5}{3}\pi$



Pr6

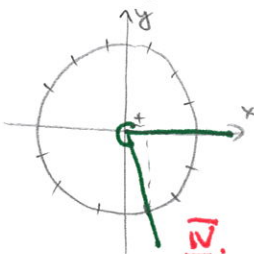
Rozhodněte, zda hodnota je kladná, záporná či nulová:

a) $\tan \frac{4}{5}\pi$ (-)



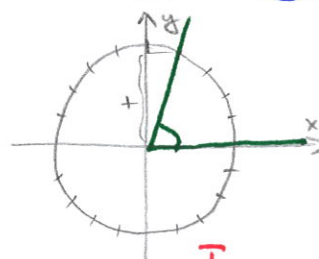
II.

b) $\cos \frac{11}{7}\pi$ (+)



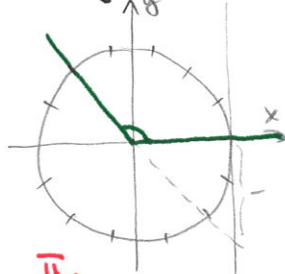
IV.

c) $\sin \frac{4}{10}\pi$ (+)



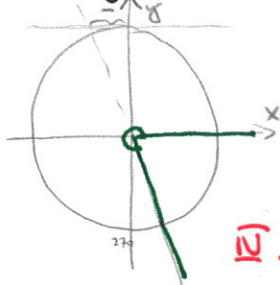
I.

d) $\tan \frac{5}{7}\pi$ (-)



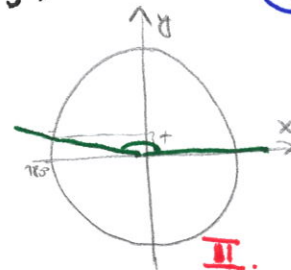
II.

e) $\cotg 290^\circ$ (-)



IV.

f) $\sin 173^\circ$ (+)



II.