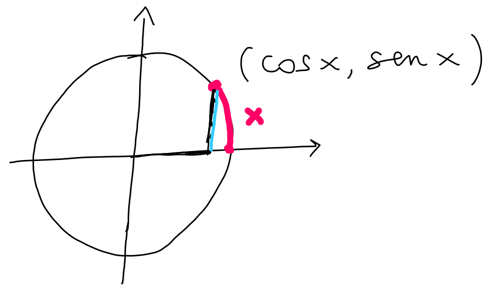
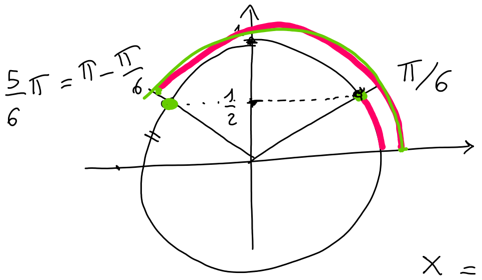
Eser 29/9

mercoledì 29 settembre 2021 12:18

$$\operatorname{sen} x = \frac{1}{2}$$





$$x = \frac{\pi}{6} + 2k\pi$$

$$x = \frac{5}{6}\pi + 2k\pi$$

$$\boxed{\cos x < -\frac{1}{2}}$$

$$\boxed{2\operatorname{sen} x + \sqrt{2} > 0}$$

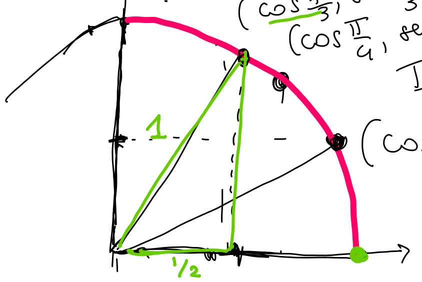
$$2\operatorname{sen}^2 x - \sqrt{2}\operatorname{sen} x > 0$$

$$(0,1) = \left(\cos\frac{\pi}{2}, \operatorname{sen}\frac{\pi}{2}\right)$$

$$\left(\cos\frac{\pi}{3}, \operatorname{sen}\frac{\pi}{3}\right) = \left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$$

$$\left(\cos\frac{\pi}{4}, \operatorname{sen}\frac{\pi}{4}\right) = \left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$$

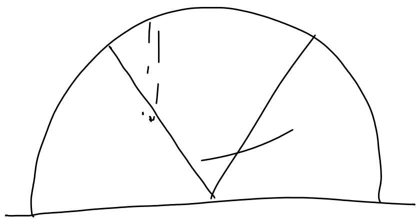
I QUADRANTE

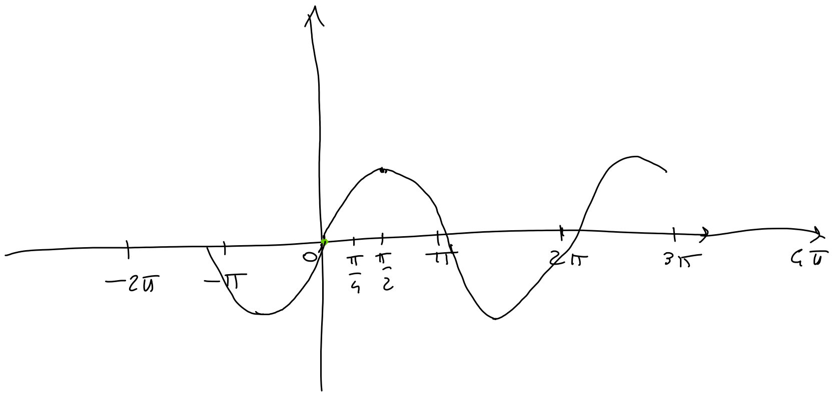


$$\left(\cos\frac{\pi}{6}, \operatorname{sen}\frac{\pi}{6}\right) = \left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$$

$$(1,0) = (\cos 0, \operatorname{sen} 0)$$

$$\frac{\cancel{2}\pi\cancel{\ }}{\cancel{4}\,2}$$

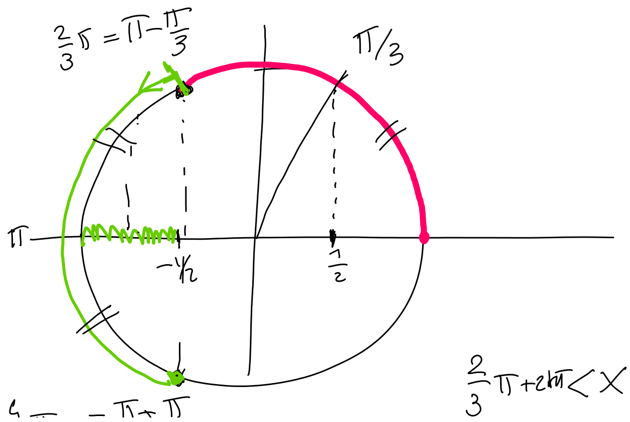




$$\boxed{\cos x < -\frac{1}{2}}$$

$$\cos x = -\frac{1}{2}$$

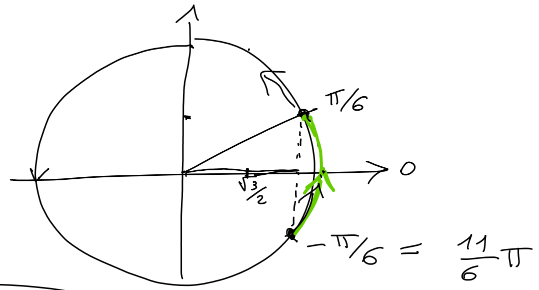
QUALI SONO I PUNTI SULLA CIRCONFERENZA CHE HANNO ASCISSA 1/2?



$$\frac{2}{3}\pi + 2k\pi < x < \frac{4}{3}\pi + 2\pi k$$

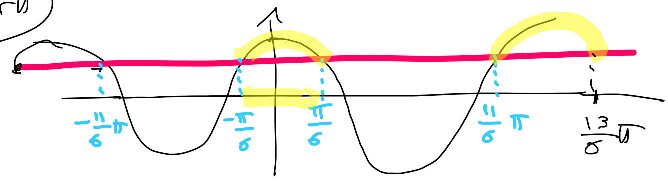
$$\boxed{\cos x > \frac{\sqrt{3}}{2}}$$

$$\cos x = \frac{\sqrt{3}}{2}$$

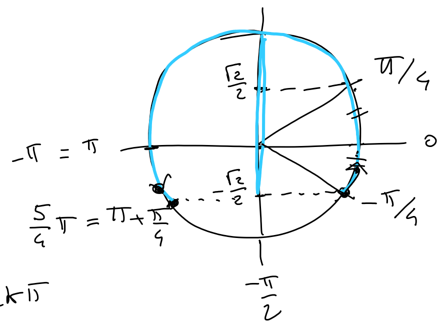


$$-\frac{\pi}{6}+2k\pi < x < \frac{\pi}{6}+2k\pi$$

$$\cancel{\frac{11}{6}\pi < x < \frac{\pi}{6}}$$



$$\operatorname{sen} x \geq -\frac{\sqrt{2}}{2}$$



$$-\frac{\pi}{4}+2k\pi \leq x \leq \frac{5}{4}\pi+2k\pi$$

$k \in \mathbb{Z}$

$$2\operatorname{sen}^2 x - \sqrt{2}\operatorname{sen} x > 0$$

$$3\operatorname{sen} x - 10 > 0$$

$$8\cos^2 x + 2\cos x - 3 < 0$$

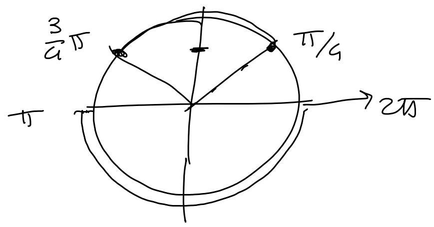
$\operatorname{sen} x = t \qquad 2t^2 - \sqrt{2}\,t > 0$

$t(2t-\sqrt{2}) = 0$

$t = 0 \quad t = \frac{\sqrt{2}}{2} \qquad + \quad - \quad +$

$t < 0 \qquad t > \frac{\sqrt{2}}{2}$

$\operatorname{sen} x < 0 \qquad \operatorname{sen} x > \frac{\sqrt{2}}{2}$



$$\pi+2k\pi < x < 2\pi+2k\pi$$

$$\frac{\pi}{4}+2k\pi < x < \frac{3}{4}\pi+2k\pi$$

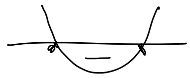
$$\operatorname{sen} x > \frac{10}{3} > 1$$

$\nexists\, x \in \mathbb{R}$

$\cos x = t$

$8t^2+2t-3=0$

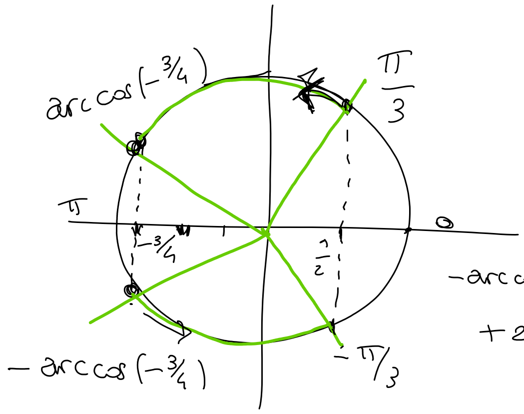
$$t = \frac{-1 \pm \sqrt{1+24}}{8} = \frac{-1 \pm 5}{8} \begin{cases} -\frac{3}{4} \\ \frac{1}{2} \end{cases}$$



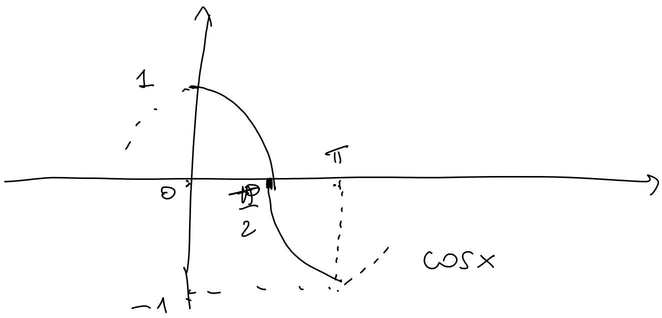
$$-\frac{3}{4} < t < \frac{1}{2}$$

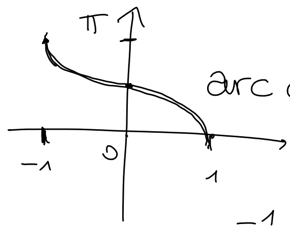
$$\frac{\pi}{3} + 2k\pi < x < \arccos\left(-\tfrac{3}{4}\right) + 2k\pi$$

$$\begin{cases} \cos x < \frac{1}{2} \\ \cos x > -\frac{3}{4} \end{cases}$$



$$-\arccos\left(-\tfrac{3}{4}\right) + 2k\pi < x < -\frac{\pi}{3} + 2k\pi$$





$$-1 \leq x \leq 1$$

$$\arccos 0 = \frac{\pi}{2}$$

$$\arccos \frac{1}{2} = \frac{\pi}{3}$$

$$[-1, 1] \xrightarrow{\arccos x} [0, \pi]$$

$$-\tfrac{3}{4} \longrightarrow \arccos\left(-\tfrac{3}{4}\right)$$