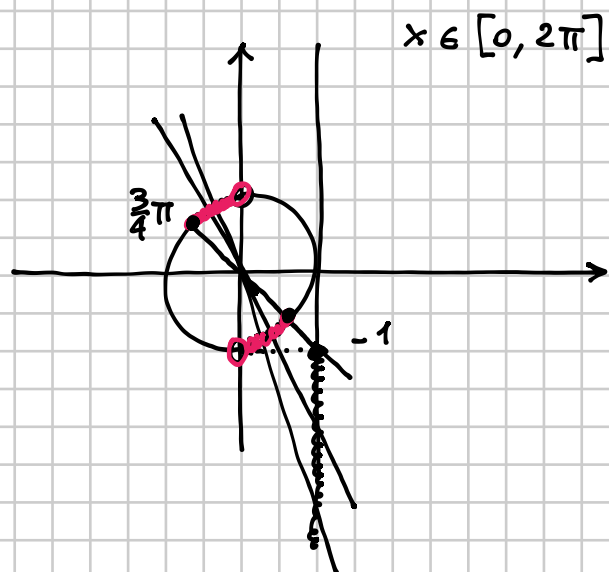


506

$$\tan x \leq -1 \quad \left[\frac{\pi}{2} < x \leq \frac{3}{4}\pi \vee \frac{3}{2}\pi < x \leq \frac{7}{4}\pi \right]$$



$$\frac{\pi}{2} < x \leq \frac{3}{4}\pi \quad \vee \quad \frac{3}{2}\pi < x \leq \frac{7}{4}\pi$$

509

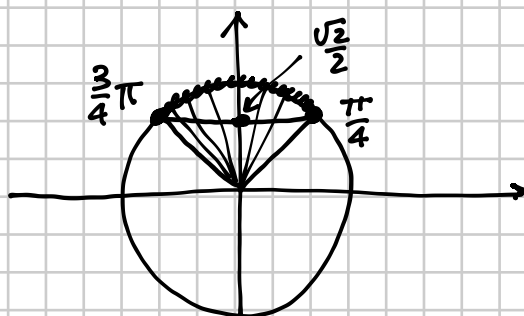
$$2\sin \frac{x}{2} \geq \sqrt{2}$$

$$\left[\frac{\pi}{2} \leq x \leq \frac{3}{2}\pi \right]$$

$$x \in [0, 2\pi]$$

$$\Downarrow$$

$$\sin \frac{x}{2} \geq \frac{\sqrt{2}}{2}$$



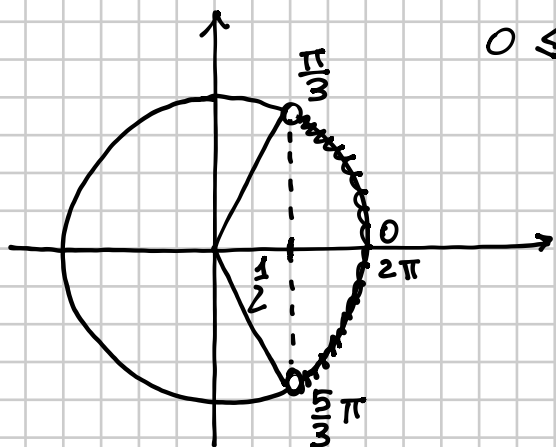
$$\frac{\pi}{4} \leq \frac{x}{2} \leq \frac{3}{4}\pi$$

$$\boxed{\frac{\pi}{2} \leq x \leq \frac{3}{2}\pi}$$

503

$$\cos x > \frac{1}{2}$$

$$\left[0 \leq x < \frac{\pi}{3} \vee \frac{5}{3}\pi < x \leq 2\pi \right]$$



$$0 \leq x \leq 2\pi$$

$$0 \leq x < \frac{\pi}{3} \vee \frac{5}{3}\pi < x \leq 2\pi$$

521

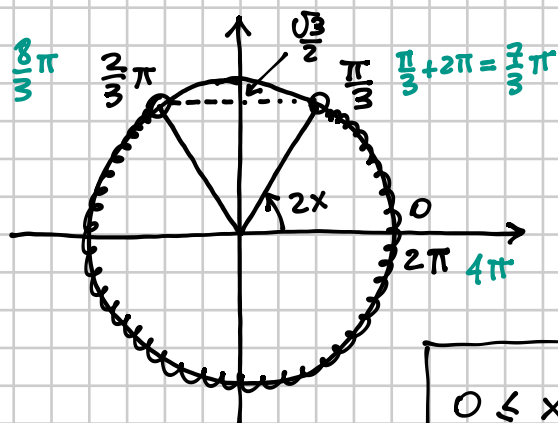
$$2 \sin 2x - \sqrt{3} < 0$$

$$\left[0 \leq x < \frac{\pi}{6} \vee \frac{\pi}{3} < x < \frac{7}{6}\pi \vee \frac{4}{3}\pi < x \leq 2\pi \right]$$

$$0 \leq x \leq 2\pi \Rightarrow$$

$$0 \leq 2x \leq 4\pi$$

$$2 \sin 2x < \sqrt{3} \Rightarrow \sin 2x < \frac{\sqrt{3}}{2}$$



$$0 \leq 2x < \frac{\pi}{3} \vee \frac{2}{3}\pi < 2x \leq 2\pi$$

$$2\pi \leq 2x < \frac{7}{3}\pi \vee \frac{8}{3}\pi < 2x \leq 4\pi$$

$$0 \leq x < \frac{\pi}{6} \vee \frac{\pi}{3} < x < \frac{7}{6}\pi \vee \frac{4}{3}\pi < x \leq 2\pi$$

559

$$\cos^2 x - \cos x \geq 0$$

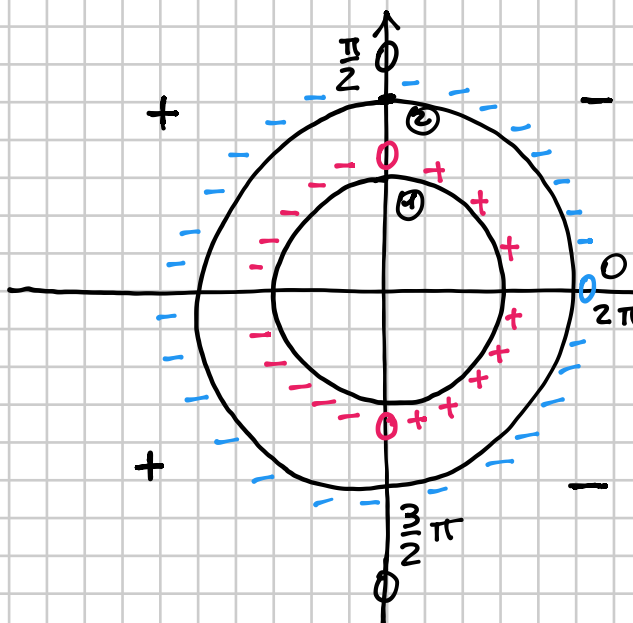
$$\left[\frac{\pi}{2} + 2k\pi \leq x \leq \frac{3}{2}\pi + 2k\pi \vee x = 2k\pi \right]$$

$$\textcircled{1} \cos x \cdot \textcircled{2} (\cos x - 1) \geq 0$$

$$\textcircled{1} \cos x > 0$$

$$\textcircled{2} \cos x - 1 > 0$$

$$\cos x > 1 \text{ IMPOSS.}$$



Se quando solto tra 0 e 2π
(e $0 \leq x \leq 2\pi$)

$$x=0 \vee \frac{\pi}{2} \leq x \leq \frac{3}{2}\pi \vee x=2\pi$$

\Downarrow
aggiungo la periodicità

$$x=2k\pi \vee \frac{\pi}{2} + 2k\pi \leq x \leq \frac{3}{2}\pi + 2k\pi$$