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$$3 \tan^2 x + \sqrt{3} \tan x \leq 0$$

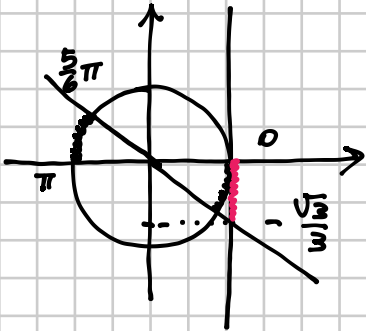
$$\left[\frac{5}{6}\pi + k\pi \leq x \leq \pi + k\pi \right]$$

$$\tan x (3 \tan x + \sqrt{3}) \leq 0$$

$$\tan x = 0$$

$$\tan x = -\frac{\sqrt{3}}{3}$$

$$-\frac{\sqrt{3}}{3} \leq \tan x \leq 0$$



$$-\frac{\pi}{6} + k\pi \leq x \leq k\pi$$

ALTERNATIVA

$$\tan x > 0$$

$$3 \tan x + \sqrt{3} > 0 \Rightarrow \tan x > -\frac{\sqrt{3}}{3}$$

REGOLA DEI SEGNI

	$-\frac{\sqrt{3}}{3}$	0	
-		-	0 +
-	0 +		+
+	0 -	0 +	

(si può anche scrivere

$$\frac{5}{6}\pi + k\pi \leq x \leq \pi + k\pi$$

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

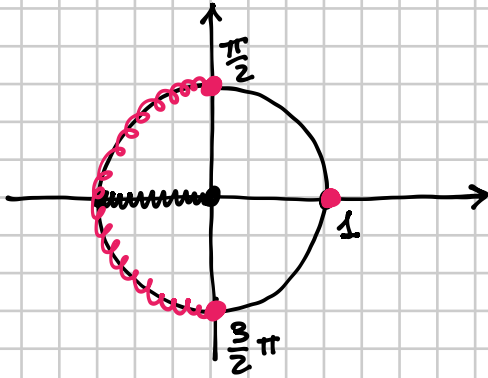
$$\cos x (\cos x - 1) \geq 0 \quad \begin{array}{l} \nearrow \cos x = 0 \\ \searrow \cos x = 1 \end{array}$$



$$\cos x \leq 0 \quad \vee \quad \cos x \geq 1$$



$$\cos x \leq 0 \quad \vee \quad \cos x = 1$$



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

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$$\sin x + \cos x \leq 0$$

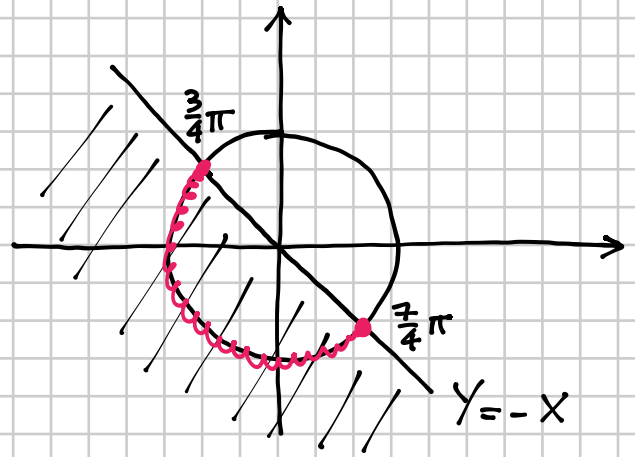
$$\begin{cases} Y = \sin x \\ X = \cos x \end{cases}$$

$$\begin{cases} Y + X \leq 0 \\ X^2 + Y^2 = 1 \end{cases}$$

$$Y + X \leq 0 \quad Y \leq -X$$

$$Y + X = 0$$

$$Y = -X$$

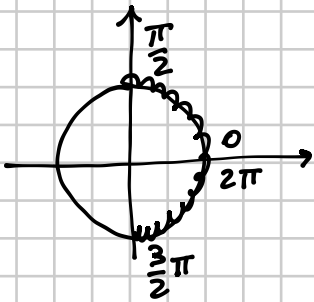


$$\frac{3}{4}\pi + 2K\pi \leq x \leq \frac{7}{4}\pi + 2K\pi$$

583

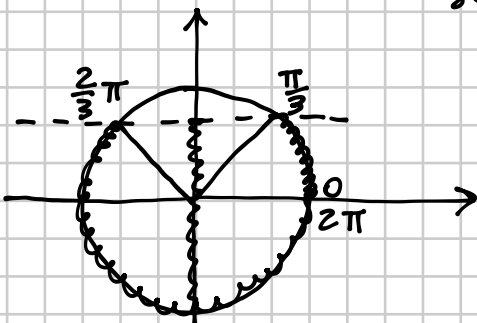
$$\frac{\cos x}{\sqrt{3} - 2\sin x} < 0$$

$$\begin{aligned} \text{N]} \quad \cos x > 0 \quad & 2K\pi < x < \frac{\pi}{2} + 2K\pi \quad \vee \quad \frac{3}{2}\pi + 2K\pi < x < 2\pi + 2K\pi \end{aligned}$$



$$\text{D]} \quad \sqrt{3} - 2\sin x > 0 \quad -2\sin x > -\sqrt{3}$$

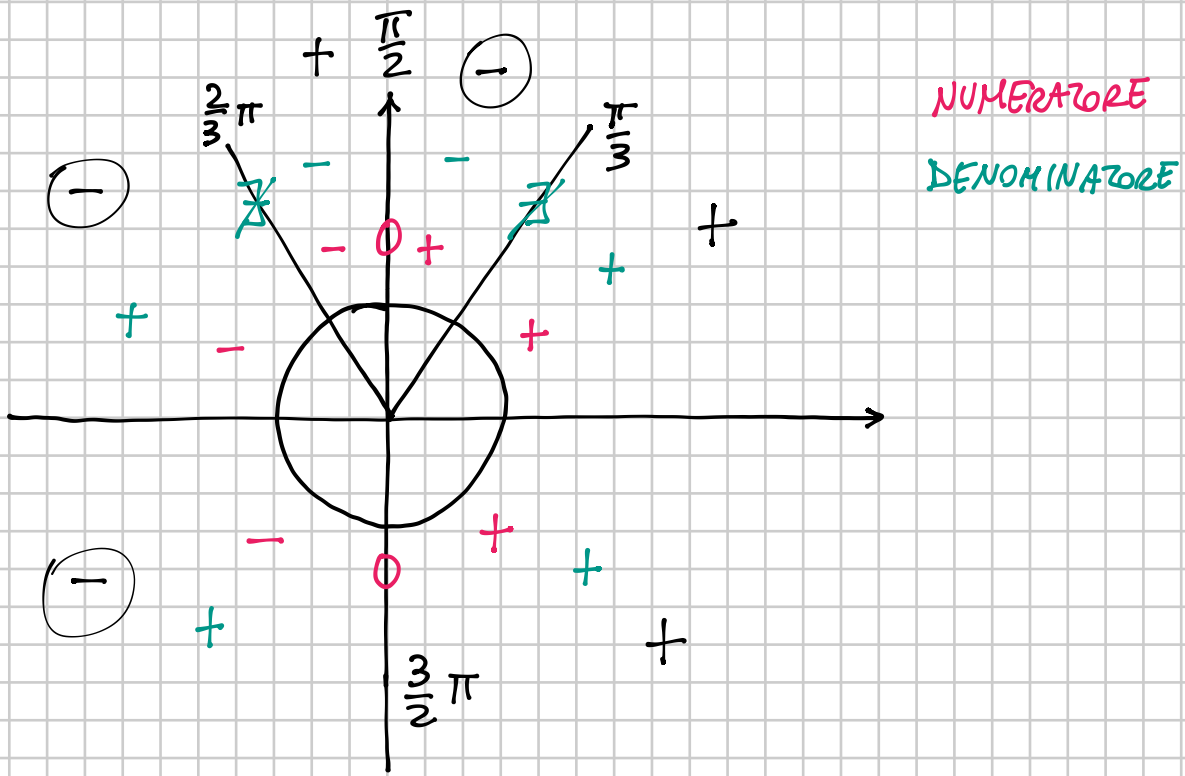
$$\sin x < \frac{\sqrt{3}}{2}$$



$$2K\pi < x < \frac{\pi}{3} + 2K\pi$$

$$\vee$$

$$\frac{2}{3}\pi + 2K\pi < x < 2\pi + 2K\pi$$



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

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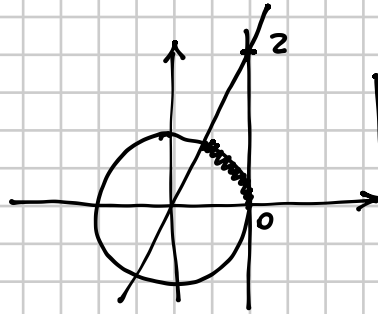
$$|1 - \tan x| \leq 1$$

$$|f(x)| \leq K \quad K > 0$$

$$-K \leq f(x) \leq K$$

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

$$\begin{cases} -1 \leq 1 - \tan x \\ 1 - \tan x \leq 1 \end{cases} \Rightarrow \begin{cases} \tan x \leq 2 \\ \tan x \geq 0 \end{cases} \Rightarrow 0 \leq \tan x \leq 2$$



$$K\pi \leq x \leq \arctan(2) + K\pi$$