

$$\lg_3 4 \frac{3 - \cos^2 x}{2 \cos^2 x - 1} > \lg_3 \frac{1}{2} \frac{\cos x}{1 - 2 \cos^2 x}$$

$$\lg_3 2 \frac{2(3 - \cos^2 x)}{2 \cos^2 x - 1} > \lg_3 2 \frac{\cos x}{2 \cos^2 x - 1}$$

$$\frac{2(3 - \cos^2 x)}{2 \cos^2 x - 1} > \frac{\cos x}{2 \cos^2 x - 1}$$

$$\cos x = t \quad -1 \leq t \leq 1$$

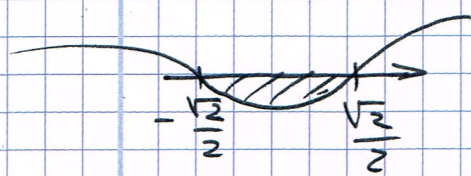
$$\frac{2(3 - t^2)}{2t^2 - 1} - \frac{t}{2t^2 - 1} > 0$$

Реш

$$\frac{2t^2 + t - 6}{2t^2 - 1} > 0$$

↓
Реш

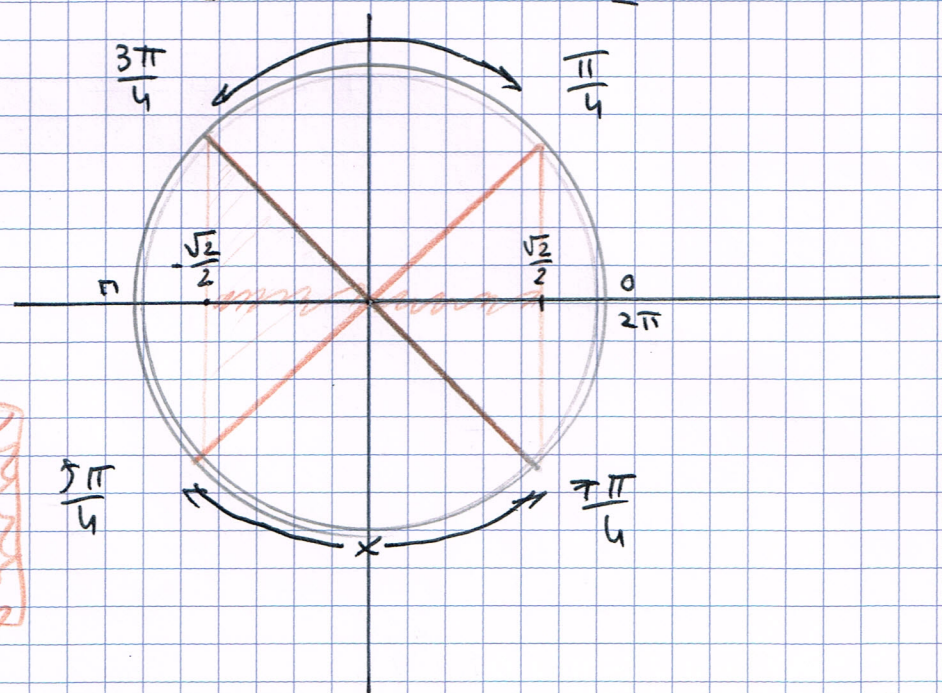
$$\frac{2(t - \frac{1}{2})(t + 2)}{2(t - \frac{\sqrt{2}}{2})(t + \frac{\sqrt{2}}{2})} > 0$$



$$(t - \frac{\sqrt{2}}{2})(t + \frac{\sqrt{2}}{2}) < 0$$

$$-\frac{\sqrt{2}}{2} < t < \frac{\sqrt{2}}{2}$$

$$-\frac{\sqrt{2}}{2} < \cos x < \frac{\sqrt{2}}{2}$$



$$\frac{\pi}{4} < x < \frac{3\pi}{4}$$

$$\frac{5\pi}{4} < x < \frac{7\pi}{4}$$