4.2
4

$$\cos 5x - \sin\left(3x - \frac{\pi}{2}\right) \geq \sqrt{2}\cos(4x + 3\pi)$$

$$\cos 5x + \cos 3x \geq -\sqrt{2}\cos 4x$$

$$2\cos 4x \cos x + \sqrt{2}\cos 4x \geq 0$$

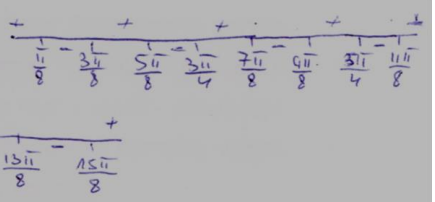
$$\cos 4x(2\cos x + \sqrt{2}) \geq 0$$

$$4x = \frac{\pi}{2} + \pi k$$

$$x = \frac{\pi}{8} + \frac{\pi}{4}k$$

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

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



$\frac{3\pi}{4} \leq x \leq \frac{7\pi}{8}$, $\frac{3\pi}{8} \leq x \leq \frac{5\pi}{4}$, $0 \leq x \leq \frac{\pi}{8}$; $\frac{15\pi}{8} \leq x \leq 2\pi$ $\frac{11\pi}{8} \leq x \leq \frac{13\pi}{8}$ $\frac{5\pi}{4} \leq x \leq \frac{9\pi}{8}$

Odp.: