

$$4 \cos^2(2x) - 3 < 0, \quad x \in \langle 0, 2\pi \rangle$$

$$\cos^2(2x) < \frac{3}{4}$$

$$\begin{array}{lll} \cos(2x) < \frac{3}{4} & \cup & \cos(2x) < -\frac{3}{4} \\ 2x \in \left(\frac{\pi}{6}; \frac{5\pi}{6}\right) & \cup & 2x \in \left(\frac{7\pi}{6}; \frac{11\pi}{6}\right) \quad \wedge \quad 2x \in \langle 0, 2\pi \rangle \\ x \in \left(\frac{\pi}{12}; \frac{5\pi}{12}\right) & \cup & x \in \left(\frac{7\pi}{12}; \frac{11\pi}{12}\right) \quad \wedge \quad x \in \langle 0, \pi \rangle \end{array}$$

$$x \in \left(\frac{\pi}{12}; \frac{5\pi}{12}\right) \cup \left(\frac{7\pi}{12}; \frac{11\pi}{12}\right) \cup \left(\frac{13\pi}{12}; \frac{17\pi}{12}\right) \cup \left(\frac{19\pi}{12}; \frac{23\pi}{12}\right)$$