

Zadanie 4. (4 pkt) Rozwiąż równanie $\cos 2x + \cos x + 1 = 0$ dla $x \in \langle 0; 2\pi \rangle$

$$\cos^2 x - \sin^2 x + \cos x + 1 = 0$$

$$\cos^2 x - (1 - \cos^2 x) + \cos x + 1 = 0$$

$$2\cos^2 x + \cos x = 0$$

$$\cos x(2\cos x + 1) = 0$$

$$\cos x = 0 \qquad \cos x = -\frac{1}{2}$$

$$x_1 = \frac{\pi}{2} \qquad x_2 = \frac{3\pi}{2} \qquad x_3 = \frac{2\pi}{3} \qquad x_4 = \frac{4\pi}{3}$$