

Zadanie 3. (4 pkt)

Rozwiąż równanie $-2\cos^2 x + 3\sin x + 3 = 0$ w przedziale $\langle 0, 2\pi \rangle$.

$$-2(1 - \sin^2 x) + 3\sin x + 3 = 0$$

$$2\sin^2 x + 3\sin x + 1 = 0$$

$$t = \sin x \quad t \in \langle -1, 1 \rangle$$

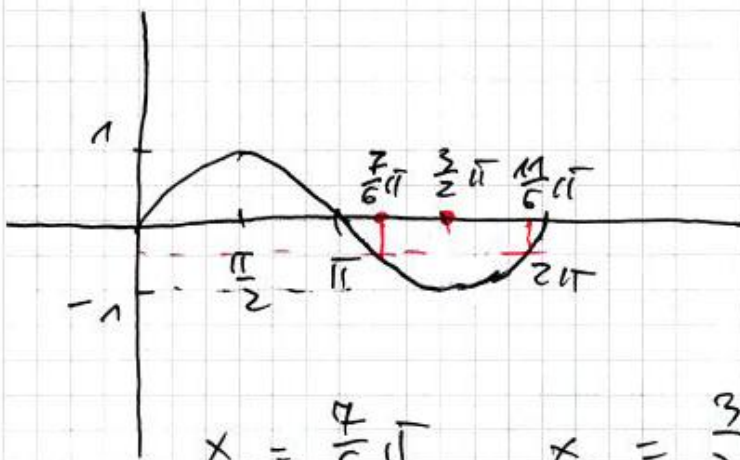
$$2t^2 + 3t + 1 = 0$$

$$\Delta = 1$$

$$t_{1,2} = \frac{-3 \pm 1}{4} = \begin{cases} -1 \\ -\frac{1}{2} \end{cases}$$

$$\sin x = -1$$

$$\sin x = -\frac{1}{2}$$



$$x_1 = \frac{7}{6}\pi$$

$$x_2 = \frac{3}{2}\pi$$

$$x_3 = \frac{11}{6}\pi$$