

4

$$2 \cos^2 x + \sin(\pi - x) = 2$$

$$2(1 - \sin^2 x) - \sin(x - \pi) = 2$$

$$2 - 2 \sin^2 x + \sin x = 2$$

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

$$2 \sin^2 x - \sin x = 0$$

$$\sin x (2 \sin x - 1) = 0$$

$$\sin x = 0$$

$$x_1 = k \cdot \pi$$

$$2 \sin x = 1$$

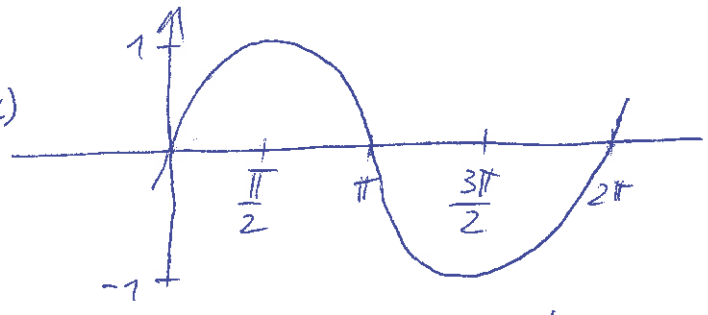
$$\sin x = \frac{1}{2}$$

$$x_2 = \frac{\pi}{6} + k \cdot 2\pi$$

$$x_3 = \frac{5\pi}{6} + k \cdot 2\pi$$

$$k \in \mathbb{Z}$$

"Ha $a(\sin)$ függvényét $(-\pi)$ -vel visszinteseztől
eltoljuk, akkor éppen $a(-\sin)$ függvényét
kapjuk."



B

5

a_1, a_2, a_3 mértani sorozat

$$a_1 = \frac{a_2}{q}, \quad a_3 = a_2 \cdot q$$

$$\textcircled{1} \frac{a_2}{q} \cdot a_2 \cdot a_2 q = -27 \Rightarrow a_2^3 = -27 \Rightarrow a_2 = -3$$

$$\textcircled{2} \frac{a_2}{q} + a_2 + a_2 q = 7$$

$$\frac{-3}{q} + 3 - 3q = 7 \quad | \cdot q$$

$$-3 - 3q - 3q^2 = 7q$$

$$0 = 3q^2 + 10q + 3$$

$$q_{1,2} = \frac{-10 \pm \sqrt{100 - 36}}{6}$$

$$q_1 = -\frac{1}{3}$$

$$q_2 = -3$$

- I.) Ha $q_1 = -\frac{1}{3} \Rightarrow a_1 = 9; a_2 = -3; a_3 = 1$
- II.) Ha $q_2 = -3 \Rightarrow a_1 = 1; a_2 = -3; a_3 = 9$