

A' ΟΜΑΔΑΣ

1. Να λύσετε τις εξισώσεις

i) $\eta\mu x = 0$ ii) $\eta\mu x = \frac{\sqrt{2}}{2}$

$$\text{i) } \eta\mu x = 0 \Leftrightarrow \eta\mu x = \eta\mu 0 \Leftrightarrow \begin{cases} x = 2k\pi \\ x = 2k\pi + \pi \end{cases} \Leftrightarrow x = k\pi, k \in \mathbb{Z}$$

$$\text{ii) } \eta\mu x = \frac{\sqrt{2}}{2} \Leftrightarrow \eta\mu x = \eta\mu \frac{\pi}{4} \Leftrightarrow \begin{cases} x = 2k\pi + \frac{\pi}{4} \\ x = 2k\pi + \pi - \frac{\pi}{4} \end{cases} \Leftrightarrow \begin{cases} x = 2k\pi + \frac{\pi}{4} \\ x = 2k\pi + \frac{3\pi}{4} \end{cases} \quad k \in \mathbb{Z}$$

2. Να λύσετε τις εξισώσεις

i) $\eta\mu x = -\frac{1}{2}$ ii) $\eta\mu x = -1$

$$\text{i) } \eta\mu x = -\eta\mu \frac{\pi}{6} = \eta\mu \left(-\frac{\pi}{6}\right) \Leftrightarrow \begin{cases} x = 2k\pi - \frac{\pi}{6} \\ x = 2k\pi + \pi + \frac{\pi}{6} \end{cases} \Leftrightarrow \begin{cases} x = 2k\pi - \frac{\pi}{6} \\ x = 2k\pi + \frac{7\pi}{6} \end{cases} \quad k \in \mathbb{Z}$$

$$\text{ii) } \eta\mu x = \eta\mu \left(-\frac{\pi}{2}\right) \Leftrightarrow \begin{cases} x = 2k\pi - \frac{\pi}{2} \\ x = 2k\pi + \pi + \frac{\pi}{2} \end{cases} \Leftrightarrow \begin{cases} x = 2k\pi - \frac{\pi}{2} \\ x = 2k\pi + \frac{3\pi}{2} \end{cases} \Leftrightarrow x = 2k\pi - \frac{\pi}{2}, k \in \mathbb{Z}$$