

Έστω $I = \int_{-1994}^{1994} f(x) dx$. Τότε

$$I = \int_{-1994}^{1994} f(x) dx \quad \begin{matrix} f(x)+f(-x)=\alpha \Rightarrow \\ f(x)=\alpha-f(-x) \end{matrix} = \int_{-1994}^{1994} \alpha - f(-x) dx = \int_{-1994}^{1994} \alpha dx - \int_{-1994}^{1994} f(-x) dx =$$

$$\int_{-1994}^{1994} f(-x) dx \quad \begin{matrix} \text{Θέτουμε } y=-x \Rightarrow dy=-dx \\ \text{για } x=-1994 \Rightarrow y=1994 \\ \text{για } x=1994 \Rightarrow y=-1994 \end{matrix} = - \int_{1994}^{-1994} f(y) dy = \int_{-1994}^{1994} f(y) dy = \alpha [1994 - (-1994)] - \int_{-1994}^{1994} f(y) dy =$$

$$= 2\alpha 1994 - I$$

Επομένως

$$I = 2\alpha 1994 - I \Rightarrow I = 2\alpha 1994 \Rightarrow I = 1994\alpha$$