

α) Είναι:

$$A \cdot B = (2 - \sqrt{3})(2 + \sqrt{3}) = 2^2 - (\sqrt{3})^2 = 4 - 3 = 1.$$

β) Ισχύει ότι:

$$\begin{aligned}\Pi &= A^2 + B^2 \\ &= (2 - \sqrt{3})^2 + (2 + \sqrt{3})^2 \\ &= 2^2 - 2 \cdot 2\sqrt{3} + (\sqrt{3})^2 + 2^2 + 2 \cdot 2\sqrt{3} + (\sqrt{3})^2 \\ &= 4 + 3 + 4 + 3 = 14.\end{aligned}$$