Q1. Let α, β, γ be the roots of the equation $x^3 + x + 1 = 0$, then

$$\frac{\alpha\beta(\alpha+\beta)+\beta\gamma(\beta+\gamma)+\gamma\alpha(\gamma+\alpha)}{\alpha^2+\beta^2+\gamma^2} =$$

(a) $\frac{3}{2}$

(b) 2

(c) -3

(d) $-\frac{3}{2}$

Q2. If $2+3i$ is one of the roots of the equation $2x^3 - 9x^2 + kx - 13 = 0, k \in R$, then the real root of this equation:

(a) does not exist

(b) exist and is equal to $\frac{1}{2}$

(c) is equal to $\frac{1}{2}$

(d) is equal to 1