

ΛΥΣΗ

α) Έχουμε :

$$\alpha^2 + \alpha\beta + \beta^2 = (\alpha + \beta)^2 - \alpha\beta = (\sqrt{3} - 1 + \sqrt{3} + 1)^2 - (\sqrt{3} - 1) \cdot (\sqrt{3} + 1) = (2\sqrt{3})^2 - 2 = 10$$

β) Είναι

$$\alpha\beta = (\sqrt{3} - 1)(\sqrt{3} + 1) = 3 - 1 = 2 \text{ οπότε}$$

$$\frac{\beta}{\alpha} + \frac{\alpha}{\beta} + 1 = \frac{\beta^2 + \alpha^2 + \alpha\beta}{\alpha\beta} = \frac{10}{2} = 5$$