4558

α) $\Delta = (\lambda^2+1)^2 - 4\lambda^2 = (\lambda^2+1-2\lambda)(\lambda^2+1+2\lambda)$

$= (\lambda-1)^2 \cdot (\lambda+1)^2 \geq 0$

$P = \frac{\lambda}{\lambda} = 1 > 0$

$S = \frac{\lambda^2+1}{\lambda} > 0$

} θετικές ρίζες

β) (i) $E = x_1 \cdot x_2 =$ [illegible] $= 1$

(ii) $\Pi = 2\frac{\lambda^2+1}{\lambda}$. ΑΝΔ $2\frac{\lambda^2+1}{\lambda} \geq 4$

$\Leftrightarrow \lambda^2+1 \geq 2\lambda \Leftrightarrow (\lambda-1)^2 \geq 0$ ισχύει.

(iii) Π_{min} για $\lambda = 1$

$f(x) = x^2 - 2x + 1 \Leftrightarrow f(x) = (x-1)^2$

$x_1 = x_2 = 1 \Rightarrow$ Τετράγωνο