# 4659

α) $\Delta = 25 - 4\alpha^2 = -(2\alpha - 5)(2\alpha + 5) \geq 0$

| $\alpha$ | | $-\frac{5}{2}$ | | $\frac{5}{2}$ | |
|---|---|---|---|---|---|
| $\Delta$ | $-$ | 0 | $+$ | 0 | $-$ |

$\alpha \in \left[-\frac{5}{2}, \frac{5}{2}\right] \Leftrightarrow |\alpha| \leq \frac{5}{2}$

$P = 1 \Rightarrow$ αντίστροφοι

β) Για $\alpha = 2$ : $2x^2 - 5x + 2 = 0$

$\Delta = 25 - 16 = 9$

$x_{1,2} = \frac{5 \pm 3}{4} \begin{cases} 2 \\ \frac{1}{2} \end{cases}$

γ) $x + \frac{1}{x} = 2$ ή $x + \frac{1}{x} = \frac{1}{2}$

$x = 1$ $\quad 2x^2 + 2 = x$

$\Leftrightarrow 2x^2 - x + 2 = 0$

$\Delta = 1 - 16 < 0$

αδύνατη