

4-4015

$$\alpha) \text{ Πρέπει: } \begin{cases} (-2)^2 - 2k + \lambda = 0 \Leftrightarrow \lambda - 2k = -4 \\ 1^2 + k + \lambda = 0 \Leftrightarrow \lambda + k = -1 \end{cases} \Rightarrow$$

$$3k = 3 \Leftrightarrow k = 1 \quad \text{και} \quad \lambda = -2$$

$$\beta) i) g(x) = \frac{\cancel{(x-1)}(x+1) \cdot \cancel{(x-2)}(x+2)}{\cancel{(x-1)} \cdot \cancel{(x+2)}} = (x+1)(x-2)$$

$x \neq -2, 1$

$$ii) g(\alpha+3) > g(\alpha) \Leftrightarrow (\alpha+4)(\alpha+1) > (\alpha+1)\alpha$$

$$\Leftrightarrow (\alpha+1) \cdot (\alpha+4 - \alpha) > 0 \Leftrightarrow$$

$$6(\alpha+1) > 0 \Leftrightarrow \alpha > -1$$

Άρα όταν $-1 < \alpha < 2$ έχουμε $g(\alpha+3) > g(\alpha)$