α) Είναι:

$$\frac{\alpha_5}{\alpha_2} = 27 \Leftrightarrow \frac{\alpha_1\lambda^{5-1}}{\alpha_1\lambda^{2-1}} = 27 \Leftrightarrow$$

$$\Leftrightarrow \frac{\lambda^4}{\lambda} = 27 \Leftrightarrow \lambda^3 = 27 \Leftrightarrow$$

$$\Leftrightarrow \lambda^3 = 3^3 \Leftrightarrow \lambda = 3$$

β) Ισχύει ότι:

$$S_4 = 200 \Leftrightarrow \alpha_1\frac{\lambda^4-1}{\lambda-1} = 200 \Leftrightarrow$$

$$\Leftrightarrow \alpha_1\frac{3^4-1}{3-1} = 200 \Leftrightarrow$$

$$\Leftrightarrow \alpha_1\frac{81-1}{2} = 200 \Leftrightarrow$$

$$\Leftrightarrow 40\alpha_1 = 200 \Leftrightarrow \alpha_1 = 5$$