

α) Είναι:

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

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

$$\Leftrightarrow \lambda^3 = 27$$

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

$$\Leftrightarrow \lambda = 3$$

β) Ισχύει ότι:

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

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

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

$$\Leftrightarrow 40\alpha_1 = 200$$

$$\Leftrightarrow \alpha_1 = 5$$