

α) Είναι:

$$\begin{aligned}\frac{\alpha_{15} - \alpha_9}{\alpha_{10} - \alpha_7} &= \frac{\alpha_1 + (15 - 1)\omega - [\alpha_1 + (9 - 1)\omega]}{\alpha_1 + (10 - 1)\omega - [\alpha_1 + (7 - 1)\omega]} \\ &= \frac{\alpha_1 + 14\omega - \alpha_1 - 8\omega}{\alpha_1 + 9\omega - \alpha_1 - 6\omega} \\ &= \frac{6\omega}{3\omega} = 2\end{aligned}$$

β) Έχουμε:

$$\frac{\alpha_{15} - \alpha_9}{\alpha_{10} - \alpha_7} = 2 \Leftrightarrow \frac{18}{\alpha_1 + 9\omega - \alpha_1 - 6\omega} = 2 \Leftrightarrow \frac{18}{3\omega} = 2 \Leftrightarrow 18 = 6\omega \Leftrightarrow \omega = 3$$