

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:

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