

Jeżeli dany ciąg to $a_n = a_1 q^{n-1}$, to wiemy, że

$$4 = (a_1 q^4)(a_1 q^{10}) = a_1^2 q^{14} = (a_1 q^7)^2.$$

To co mamy obliczyć to

$$\begin{aligned} a_1 a_2 a_3 \cdots a_{15} &= a_1 \cdot (a_1 q) \cdot (a_1 q^2) \cdots (a_1 q^{14}) = \\ &= a_1^{15} q^{1+2+\cdots+14} = a_1^{15} q^{\frac{1+14}{2} \cdot 14} = \\ &= a_1^{15} q^{15 \cdot 7} = (a_1 q^7)^{15} = 2^{15}. \end{aligned}$$

$$2^{15} = 32768$$