

$a_1 a_2 a_3 = 2f \quad a_1^2 a_2 = 2f \quad a_1 a_2 = f \quad a_1 = \frac{f}{q}$ $\frac{f}{q} \left(\frac{q^2 - 1}{q - 1} \right) = 21 \Rightarrow (q - 1)(q^2 + q + 1) = 21q$ $f q^2 + f q + f = 21q$ $f q^2 - 17q + f = 0$ $\Delta = b^2 - 4ac = (17)^2 - 4(f)(f) = 288$ $\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-17 \pm 16}{2f}$ $\frac{17 + 16}{2f} = \frac{33}{2f} = \frac{f}{q} \Rightarrow f = \frac{33q}{2}$	۱
$(x^2 + 4)(x^2 - 2) = f x^2$ $x^4 + 2x^2 - 2 = f x^2$ $x^4 - 2x^2 - 2 = 0$ $x^2 = A \quad A^2 - 2A - 2 = 0$ $\Delta = b^2 - 4ac = 4 + 16 = 20$ $A = \frac{2 \pm \sqrt{20}}{2} = 1 \pm \sqrt{5}$ $x = \pm \sqrt{1 \pm \sqrt{5}}$	۲
$(1 + q + q^2 + q^3 + q^4 = \frac{121}{2})$ $2 \times 1 + 2 \times 1q + 2 \times 1q^2 + 2 \times 1q^3 + 2 \times 1q^4 = 121$	۳
$\frac{b-a}{n-1} = \frac{2f-1}{4} = \frac{2f}{4} = 10, 15$ $1 + 3 \times 15 = 46$	۴
$-2 \times \frac{1}{128} = \frac{1}{128}$ $128q^v = 1$ $q^v = \frac{1}{128} \Rightarrow q = \frac{1}{2}$	۵

$-1d \quad -r d \quad -v d$ $a_1 + r d, a_1 + r d, a_1 + 1d$ $(a_1 + r d)(a_1 + 1d) = (a_1 + r d)^2$ $a_1^2 + 1 \cdot d a_1 + 1 r d = a_1^2 + 1 r d + 1 r d$ $1 d a_1 = 1 r d$ $d = r$ $a_1 = 1d$	$\frac{1}{r}, 1, r \quad [q = r]$ $(a_1 + d)(a_1 + v d) = (a_1 + r d)^2$ $a_1^2 + 1 d a_1 + v d^2 = a_1^2 + 1 r d + r d a_1$ $1 d a_1 = 1 r d$ $d = r$ $a_1 = 1d$	$\frac{1}{r}, 1, r \quad [q = r]$ $a_1 q^q = \frac{1}{r} r^q = r^q = 1$
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