

$$S_{n-4} = \frac{a_5 (q^{n-4} - 1)}{q-1}$$

2 שאלות

(1) (2)

$$S_{n-4} = \frac{a_1 (q^{n-4} - 1)}{q-1}$$

(2)

$$a_5 \frac{(q^{n-4} - 1)}{q-1} = 16 \cdot \frac{a_1 (q^{n-4} - 1)}{q-1}$$

$$a_5 = 16a_1$$

$$q^4 a_1 = 16a_1$$

$$q^4 = 16 \quad \sqrt[4]{\quad}$$

$$\boxed{q=2}$$

$$b_k = a_k + a_{k+1} + a_{k+2}$$

(1) (2)

$$b_{k+1} = a_{k+1} + a_{k+2} + a_{k+3}$$

$$\frac{b_{k+1}}{b_k} = \frac{a_k \cdot q + a_{k+1} \cdot q + a_{k+2}}{a_k + a_{k+1} + a_{k+2}} = \frac{q(a_k + a_{k+1} + a_{k+2})}{(a_k + a_{k+1} + a_{k+2})}$$

$$\frac{b_{k+1}}{b_k} = q = 2$$

$$b_k = a_k + a_{k+1} + a_{k+2}$$

(2)

$$b_k = a_k + a_k q + a_k q^2 \quad / q = 2$$

$$b_k = a_k + 2a_k + 4a_k$$

$$b_k = 7a_k$$

• $\frac{b_k}{a_k} = 7 \rightarrow$ $\frac{b_1}{a_1} = 7$ \rightarrow $\frac{b_1}{a_1} = 7$ \rightarrow $\frac{b_1}{a_1} = 7$ \rightarrow $\frac{b_1}{a_1} = 7$

$$c_1 = \frac{1}{b_1}, \quad c_2 = \frac{1}{b_2}$$

(3)

$$S_{c_n} = \frac{1}{91}$$

$$\frac{c_2}{c_1} = \frac{\frac{1}{b_2}}{\frac{1}{b_1}} \rightarrow \frac{\frac{1}{b_2}}{\frac{1}{b_1}} = \frac{b_1}{b_2} = \frac{b_1}{b_1 q} = \frac{1}{q} = \frac{1}{2}$$

$$S_{c_n} = \frac{c_1}{1-q} = \frac{1}{91} \rightarrow \frac{\frac{1}{b_1}}{\frac{1}{2}} = \frac{1}{91} \rightarrow \frac{2}{b_1} = \frac{1}{91}$$

$$\boxed{b_1 = 182}$$

\therefore $b_k = 7a_k$ \rightarrow $\frac{b_1}{a_1} = 7$ \rightarrow $\frac{b_1}{a_1} = 7$ \rightarrow $\frac{b_1}{a_1} = 7$

$$b_1 = 7a_1$$

$$182 = 7a_1 \quad /: 7$$

$$\boxed{26 = a_1}$$