

نام و نام خانوادگی زیرمجموعه پاسخنامه تشریحی تکلیف شماره 15... کلاس 4A

$$a_n = \frac{1}{r} \cdot 2^{n-1}$$

$$a_n = \frac{1}{r} \cdot x^{n-1}$$

$$a_{10} = \frac{1}{x} \cdot x^9 = 256$$

$$\frac{a_{10}}{a_{12}} = \frac{a_9}{a_{11}} = q^2 = 256$$

$$a_{\Sigma} [a_1 a_2 a_3 a_4 a_5] a_{10}$$

$$a_{10} = \frac{1}{r} \cdot x^{n-1} = 256$$

$$a_n = \frac{1}{r} \cdot x^{n-1} \rightarrow 2^{n-1} = 256 \rightarrow n-1=8 \rightarrow n=9$$

الف) 256

ب) 16

ج) 32

د) 9

1

$$\frac{a_1}{a_5} = \frac{a_1}{a_1 q^4} = q^4 = \frac{9}{12} \rightarrow q = 3$$

$$a_2 = 12$$

$$a_1 = \frac{12}{3} = 4$$

$$a_{10} = 4 \cdot 3^9 = \frac{3^9}{2} = 3186$$

2

تعداد ضرب هجده و (جمله اول)

$$(a_n)^2 = 256 \rightarrow a_n = 16$$

$$\frac{a}{r} = 256 \rightarrow a = 256r$$

الف) 30

ب) 9

3

$n+1$, n و $n-1$
(11) (v) (3)
داده شده

$$\frac{n}{n+1} = \frac{n-1}{n} \rightarrow n^2 = n^2 - 1 \rightarrow \alpha$$

همچنین متغیر برابر وجود ندارد

$$n^2 = (n-1)(n+1) \rightarrow n^2 = n^2 - 1 \rightarrow \alpha$$

بریک (1)

$$\frac{a_v}{a_r} = \frac{a_9}{a_7} = q^2 = \frac{n}{n+1}$$

$$\frac{a_{11}}{a_v} = \frac{a_9}{a_7} = q^2 = \frac{n-1}{n}$$

بریک (2)

4

$3^a, 2\sqrt{2}, 2^b$

$$(2\sqrt{2})^2 = 3^a = 2^a \cdot 2^b = 2^{a+b} \rightarrow a+b=5$$

$$\frac{a+b}{2} = 2.5$$

5

$$a_1 + a_1 q^r \leq 1 \quad a(1+q^r) \leq 1 \rightarrow a \leq \frac{1}{1+q^r}$$

$$a_1 q + a_1 q^r \leq 1 \quad a q(1+q) \leq 1 \rightarrow \frac{1}{1+q^r} \times q(1+q) \leq 1 \rightarrow 2 \wedge q(1+q) \leq 1(1+q^r)$$

$$\left. \begin{array}{l} a_1, q \leq 1, r \\ a_1, q \leq 2, r, \frac{1}{r} \\ 1, r, q, 2, r \\ 2, r, q, 2, r \end{array} \right\} \text{بیشترین مقدار (2r)}$$

$$\begin{aligned} & 2 \wedge q + 2 \wedge q^r \leq 1(1+q^r) \rightarrow 2 \wedge q^r - 2 \wedge q^r + 1 \leq 1 \\ & + \frac{1}{2} + \frac{1}{2} \text{ کسری برابر کسری } \rightarrow 2q^r - 2q^r - 2q + 1 \leq 0 \\ & \frac{1}{2} \times \sqrt{\quad} \quad (4r \times 2q^r + 2q - 1) \leq 0 \\ & a \leq 2r - a(1+\frac{1}{r}) \leq 1 \rightarrow q \leq \frac{1}{r} \\ & a \leq 1 \leftarrow a(1+2r) \leq 1 \rightarrow \frac{1}{r} \end{aligned}$$

$$\left\{ \begin{array}{l} a_1 + a_1 q + a_1 q^r \leq 1 \rightarrow a_1 \leq \frac{1}{1+q+q^r} \rightarrow \frac{1}{1+q+q^r} \leq 1 \\ a_1 a q \times a q^r \leq 2r \rightarrow a^2 q^r = 2r \rightarrow (a q)^r \leq 2r \end{array} \right.$$

$$\left. \begin{array}{l} a_1 \leq 1 \\ q \leq 2 \\ a_1 \leq q \\ q \leq \frac{1}{r} \end{array} \right\} \text{مقادیر 1, 2, q} \quad \text{تبدیل 9, 3, 1}$$

$$a_1 \leq \frac{1}{1+q+q^r} = 1$$

$$\Delta \leq (-10)^r - 2 \times 10^r \leq 42$$

$$a_n \leq 2, 4, 11 \quad a_n = 2 \times r^{n-1}$$

$$S_{10} \leq \frac{r^{10} - 1}{r - 1} \leq r^{10} - 1 \leq 290 \leq 1$$

$$\begin{aligned} & a_{10} \leq 2 \times r^9, \quad 290 \leq 2 \times r^9 \quad (2 \times r^9)^n \\ & (290 \leq 2 \times r^9)^{10} \rightarrow (2 \times r^9 \times r^9)^{10}, (2^2 \times r^9)^{10} \leq 2^2 \times r^9 \end{aligned}$$

$$a_n = a_1 q^{n-1} \quad (n = 1, 2, 3, \dots)$$

$$b_n = a_{n+1} - a_n$$

تفاوت متوالی

$$b_n \leq a_1 q^n - a_1 q^{n-1} = a_1 q^{n-1} (q - 1) \rightarrow (a_1 (q - 1)) q^{n-1} \leq a_n$$

مجموعه متوالی S_n

$$a, a+d, a+2d, \dots, a+(n-1)d \quad a + aq + aq^2 + \dots + aq^{n-1} \quad S_n \leq aq + aq^2 + \dots + aq^n$$

$$S_n = a + (a+d) + (a+2d) + \dots + [a + (n-1)d] \quad q S_n - S_n \leq aq^n - a \rightarrow S_n(q-1) \leq a(q^n - 1)$$

$$\begin{aligned} & S_n = [a + (n-1)d] + [a + (n-2)d] + \dots + [a + (n-1)d] \\ & r S_n \{ [a + (n-1)d] + [a + (n+1)d] + \dots + [a + (n-1)d] \} \\ & r S_n \leq n [a + (n-1)d] \rightarrow S_n \leq \frac{n}{r} [a + (n-1)d] \end{aligned}$$

(.)