

آزمینا کبیرا:
 گوردی دهم و نهم

$$\frac{a}{q}, a, aq \rightarrow a^x \leq q \leq a^{x+1} \quad \epsilon q + \epsilon + \frac{\epsilon}{q} \leq 21 \quad (1)$$

$$\xrightarrow{\times q} \epsilon q^2 + \epsilon q + \epsilon \leq 21q \quad \epsilon q^2 - 17q + \epsilon \leq 0 \rightarrow q = \frac{1}{\epsilon}, q \leq \epsilon$$

$$\rightarrow \left(\frac{1}{\epsilon} : q \text{ نوبت} \right)$$

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$$\epsilon n^x = (n^x + \epsilon)(n^x - \epsilon) \rightarrow \epsilon n^x, n^x + \epsilon n^x - 1 \rightarrow n^x - \epsilon n^x - 1 \leq 0 \quad (2)$$

$$(n^x - \epsilon)(n^x + \epsilon) \leq 0 \rightarrow n^x \leq \epsilon, n^x \geq -\epsilon$$

پس: $1, \epsilon, \epsilon, \dots$

$n = \pm \epsilon \rightarrow n \leq \epsilon$

$$S_V \leq n \left(\frac{1 - (\frac{1}{\epsilon})^V}{1 - \frac{1}{\epsilon}} \right) = 14 \times \frac{14V}{14\epsilon} = \left(\frac{14V}{\epsilon} \right)$$

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$$\underline{a \times 10^x} \rightarrow a + aq + aq^2 + aq^3 + aq^4 = \frac{141}{11} \times a \leq \frac{141}{11} \times 243 \leq (293) \quad (3)$$

SAT ☐ SUN ☐ MON ☐ TUE ☐ WED ☐ THU ☐ FRI ☐

NOTEBOOK

$$d = \frac{4x-1}{4} = \frac{4x}{4}$$

$$4^x = 4x \rightarrow x = \pm 1$$

$$\rightarrow x = 1 \quad \log_4 d = a \cdot x^b = 1 \cdot 1^2 = 1$$

$$x = -1 \quad a \cdot x^b = 1 \cdot (-1)^2 = 1$$

$$A \rightarrow B \rightarrow \begin{cases} x=1, d=1 \rightarrow (1, 1) \\ x=-1, d=1 \rightarrow (-1, 1) \end{cases}$$

$$\log_4 d = a \cdot x^b = 1 \cdot \frac{4x}{4} = x, d$$

(5)

3

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$$\text{جواب اول} \rightarrow a_{1,1} = a + 1 \cdot d = -2 + (1 \cdot \frac{1}{5}) = -1$$

(3)

$$\text{جواب دوم} \rightarrow a_n = a q^{n-1} \text{ و } 12 \cdot n \leq q^{n-1} \text{ و } \left(q \geq \frac{1}{2} \right)$$

$$a + 2d, a + 4d, a + 1d \quad (a + 2d)^2 = (a + 4d)(a + 1d)$$

(4)

$$a^2 + 4d^2 + 12ad = a^2 + 1 \cdot ad + 14d^2 \rightarrow 3d^2 + 11ad = 0 \quad 2d(1.5d + a) = 0$$

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$$\rightarrow d = 0 \text{ یا } 1.5d = -a \rightarrow d = -\frac{1}{1.5}a$$

$$a + d, a + 2d, a + 3d \quad (a + 2d)^2 = (a + d)(a + 3d) \rightarrow a^2 + 4d^2 + 4ad = a^2 + 4ad + 3ad + 3d^2 \quad (5)$$

$$3d^2 - 3ad = 0 \quad 3d(d - a) = 0 \rightarrow d = 0 \text{ یا } d = a$$

$$2d, 4d, 1d$$

$$a, 5a, q^2 \text{ و } \frac{1}{5}a \text{ و } 12 \text{ و } 12n$$

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$$3aq, 2aq^2, aq^3 \rightarrow 9aq^2 = 3aq + aq^3$$

(11)

$$q^3 - 4q + 3 = 0 \quad (q - 1)(q - 3) = 0$$

مجموعه جوابات: $q = 1, q = 3$
 دنباله غیر ثابت است

Parsian

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$$a, rd, \underbrace{a+rd}_a, \underbrace{a+rd}_a \rightarrow a+rd=b \quad b, b+rd, b+rd$$

⑨ 20

$$(b+rd)^r, b(b+rd) \rightarrow b+rd^r, nb^r, nb^r \rightarrow b+rd^r, nb^r \rightarrow rd^r = b^r$$

$$q = \frac{b+rd}{b} = \frac{rd}{b} = \left(\frac{a}{r}\right)$$

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$$\begin{matrix} a, & aq^r, & aq^r \\ b & b, d & b+rd \\ \hline & d & rd \end{matrix}$$

$$a(1+q^r+q^r) = vr$$

$$q^r - a = \frac{a^r - aq^r}{r} \rightarrow nq^r - n = q^r - q$$

$$q^r - qq^r + n = (q^r - 1)(q^r - 1) = 0$$

$$q = 1, q = r$$

$$\rightarrow q = 1 \rightarrow a \times r \times vr \rightarrow a \times vr$$

$$b \times vr, b + d \times \frac{vr}{r} \rightarrow (d \times 0)$$

$$q = r \rightarrow a \times (1 + n + r) \times vr \rightarrow a \times 1$$

$$b \times 1, b + d \times r \rightarrow (d \times vr)$$

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Persian