

Subject:

Date:

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نام و نام خانوادگی

دستر A - تالیف کتاب ۱۴۰۰

$$a_n = \frac{1}{r}, 1, 2, \dots \quad a_n = \frac{1}{r} \times 9^{n-1}$$

$$\text{الف) } a_{10} = \frac{1}{r} \times 2^9 = 2^9 = 204$$

$$\text{ب) } \frac{a_{19}}{a_{17}} = \frac{a \times 2^{19}}{a \times 2^{17}} = 2^2 = 19$$

$$\text{ج) } a_4 = 4, a_{10} = 204 \quad \text{و } 204 \times 4 = 816, \text{ و } a_7 = \frac{1}{r} \times 2^4, 2^0 = 32$$

$$\text{د) } 128 = \frac{1}{r} \times 2^{n-1} \rightarrow 204 = 2^{n-1}, n-1 = 18 \rightarrow n = 19$$

$$\frac{a_9}{a_7} = 9^2 = \frac{99}{12} \quad \text{و } 9, 2 \rightarrow a_{10} = a_1 \times 9^9 = 99 \times 9^9 = 387420489$$

$$(a_4)^8 = 2^{48} \rightarrow a_4 = 2 \quad \text{الف)}$$

$$\sqrt{(a_1 \times a_9)^0} = 2^{48} \rightarrow (a_1 \times a_9)^0 = 09.49 \quad \text{ب)}$$

$a_1 \times a_9 = 9$

$$r^a, r\sqrt{r}, r^b, \dots \rightarrow r^a = r^a \times r^b = r^{a+b} \rightarrow a+b=0 \quad -4$$

$$\frac{a+b}{r} = \frac{0}{r} = 0$$

$$a_v' = a_v \times a_f \rightarrow r^r = \underbrace{(1-r)(r+1)}_{\text{اتحاد منقح}} = r+1 - r^1 r = r^r - 1 \quad -0$$

$$\rightarrow r^r = \frac{1}{r} \rightarrow r < \frac{\sqrt{0.5}}{-\sqrt{0.5}}$$

$$\left. \begin{array}{l} a + ar^r = r+1 \\ ar + ar^r = 1r \end{array} \right\} \rightarrow a = \frac{r+1}{r^r+1} \quad \left. \begin{array}{l} \frac{r+1}{r^r+1} = \frac{1r}{r(r+1)} \\ \frac{r+1}{r^r+1} = \frac{1r}{r(r+1)} \end{array} \right\} \rightarrow r+1 = r^r \quad -9$$

$$\rightarrow 0 = r+1 - r^r \rightarrow 0 = r + \sqrt{r} = \sqrt{r^r} - r^r < \begin{matrix} +1 \\ +3 \\ +\frac{1}{r} \end{matrix}$$

$$\underline{r^{\pm r}} \quad 1, 3, 9, \boxed{27}, r = \pm \frac{1}{r}, \boxed{27}, 9, 3, 1, r = \pm 1 \quad \text{طبقه اوله ممكنه} \quad -7$$

$$\begin{aligned} a + ar + ar^r = 1r &\rightarrow a = \frac{1r}{r^r+r+1} \\ a + ar + ar^r = 2V &\rightarrow a^r r^r = 2V \rightarrow ar = 3 \rightarrow a = \frac{3}{r} \end{aligned} \quad \left\{ \frac{1r}{r^r+r+1} = \frac{3}{r} \right. \quad -7$$

$$\rightarrow 1r = r^r + r + 3 \rightarrow 0 = r^r - 10r + 3 < \begin{matrix} r=3 \rightarrow 1, 3, 9 \\ r=\frac{1}{r} \rightarrow 9, 3, 1 \end{matrix}$$

$$a_n = 2, 9, 11, \dots \rightarrow a_n = 2 \times 9^{n-1} \quad -A$$

$$S_{10} = 09.041 \quad \leftarrow r^x \left(\frac{r^{10}-1}{r-1} \right) = 29.041 \times r^x \quad \text{الف}$$

$$P_n = (r^x r^q)^0 \quad \leftarrow \sqrt{(r^x r^q)^0} (r^x r^q)^0 (r^x r^q)^0 \quad \text{ب}$$

$$a, aq, aq^r, aq^r, \dots$$

سوال ۹ -

$$aq - a, aq^r - aq, aq^r - aq^r, \dots \rightarrow a(q-1), a(q^r-1), a(q^r-1), \dots$$

$\times q \quad \times q$

$$\sum_{n=1}^{\infty} (a + a_n) \times \frac{n}{r} \rightarrow a_n \cdot a + (n-1)d \rightarrow \text{سوال ۱۰ -}$$

$$(a + a + (n-1)d) \times \frac{n}{r} = (2a + (n-1)d) \times \frac{n}{r}$$

$$\sum_{n=1}^{\infty} a + a + d + a + 2d + \dots + a + (n-1)d \quad \left. \begin{array}{l} \sum_{n=1}^{\infty} a + \sum_{n=1}^{\infty} (n-1)d \\ \sum_{n=1}^{\infty} a + \sum_{n=1}^{\infty} (n-1)d + \dots + a \end{array} \right\} \sum_{n=1}^{\infty} a + \sum_{n=1}^{\infty} (n-1)d$$

$$\rightarrow \sum_{n=1}^{\infty} a + \sum_{n=1}^{\infty} (n-1)d + \sum_{n=1}^{\infty} (n-1)d \rightarrow \sum_{n=1}^{\infty} (2a + (n-1)d) \times \frac{n}{r}$$

$$\text{ب) } \sum_{n=1}^{\infty} a + aq + aq^r + \dots + aq^{n-1} \times q \rightarrow \sum_{n=1}^{\infty} aq = aq + aq^r + \dots + aq^{n-1}$$

$$\sum_{n=1}^{\infty} aq - \sum_{n=1}^{\infty} a - aq^n \rightarrow \sum_{n=1}^{\infty} (q-1) = a(q^n + 1) \rightarrow \sum_{n=1}^{\infty} a \left(\frac{1-q^{n+1}}{1-q} \right)$$