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نام و نام خانوادگی تست پایه دوازدهم پاسخنامه تشریحی تکلیف شماره 113 کلاس دهم دختر C

$$a_n = \frac{1}{r} \times r^{n-1} = r^{n-2} \quad t_n = \frac{1}{r} \times r^{n-1} = r^{n-2}$$

الف) $t_0 = \frac{1}{r} \times r = r = 124$

ب) $\frac{a_{11}}{a_8} = \frac{r^{11-2}}{r^{8-2}} = r^3 = 27 \Rightarrow r = 3$

ج) $b^2 = ac \Rightarrow t_1^2 = t_0 \times t_2 \Rightarrow \left(\frac{1}{r}\right)^2 = \frac{1}{r} \times \frac{1}{r} \Rightarrow 1 = 1$

د) $a_{n-1} = 121 \Rightarrow r^{n-2} = 121 \Rightarrow r^{n-2} = 11^2 \Rightarrow r = 11, n-2 = 2 \Rightarrow n = 4$

$$x \times q^r \begin{pmatrix} t_0 = 12 \\ t_1 = 96 \end{pmatrix} \times 1 \quad q^r = 1 \quad q = 2$$

$$x \times q^r \begin{pmatrix} t_1 = 96 \\ t_2 = ? \end{pmatrix} \times 4 = 384$$

الف) $a_1 \times a_2 \times a_3 \times a_4 \times a_5 = 243 \quad a_2 \times a_4 = a_3 \times a_3 = (a_3)^2$

$$(a_3)^2 = 243 \Rightarrow a_3 = 3$$

ب) $a_1 \times a_5 = (a_3)^2 = 9$

ب، $\sqrt{2}$ ، 2^a دنباله هندسی $b^2 = ac \Rightarrow (\sqrt{2})^2 = 2 \times 2^a \Rightarrow 2 = 2^{a+1} \Rightarrow a+1 = 1 \Rightarrow a = 0$

الف) $\frac{a+b}{r} = \frac{d}{r} \Rightarrow \frac{a+b}{r} = \frac{d}{r} \Rightarrow a+b = d$

$t_0 = 1-x$
 $t_1 = x$
 $t_2 = x+1$

$b^2 = ac \Rightarrow (t_1)^2 = t_0 \times t_2 \Rightarrow x^2 = (1-x)(x+1) \Rightarrow x^2 = 1-x^2 \Rightarrow 2x^2 = 1 \Rightarrow x^2 = \frac{1}{2} \Rightarrow x = \pm \frac{1}{\sqrt{2}} = \pm \frac{\sqrt{2}}{2}$

صفت $\frac{1}{\sqrt{2}}$ در بسته

11700

$$\left. \begin{array}{l} t_1 + t_r = 21 \\ t_r + t_r = 12 \end{array} \right\} \Rightarrow \frac{a(1+q^r)}{aq(1+q)} = \frac{21}{12} = \frac{7}{4}$$

د

$$\Rightarrow \frac{(1+q)(1+q^r-q)}{q(1+q)} = \frac{7}{4} \quad 1+q^r-q = \frac{7}{4}q \quad q^r - \frac{1}{4}q + 1 = 0 \quad q = \frac{\frac{1}{4} \pm \sqrt{\frac{1}{16} - 4}}{2}$$

$$q = \frac{1}{4} = \frac{1}{4} \quad q = \frac{1}{4} = \frac{1}{4} \quad t_r = aq^r = 1 \times \frac{1}{4} = \frac{1}{4} \quad \{1, 2, 4, 8\}$$

$$a_1 + a_r + a_{10} = 12$$

$$\frac{a}{q}, a, aq \Rightarrow \frac{a(1+q+q^r)}{q} = 12$$

$$a_1 a_r a_{10} = 216 \quad a_1 a_{10} = a_r a_r$$

$$r(1+q+q^r) = 12q$$

د

$$(a_r)^r = 216 \quad a_r = 6 \quad 1+q+q^r = \frac{12}{6} = 2 \Rightarrow q^r - \frac{1}{4}q + 1 = 0 \quad q = \frac{\frac{1}{4} \pm \sqrt{\frac{1}{16} - 4}}{2}$$

$$q = \frac{1}{4} = \frac{1}{4} \quad q = \frac{1}{4} = \frac{1}{4} \Rightarrow \left\{ \begin{array}{l} 1, 3, 1 \\ 1, 3, 1 \end{array} \right\}$$

د

$$a_n = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$$

$$\text{الف) } S_{10} = a_1 \left(\frac{q^{10}-1}{q-1} \right) = 2 \left(\frac{2^{10}-1}{2-1} \right) = 2^{10} - 2 = 1022$$

د

د

$$\text{ب) } (2 \times 2 \times 2)^{\frac{n}{2}} = (2 \times 2 \times 2)^{\frac{n}{2}} = 2^{\frac{3n}{2}}$$

$$t_{10} = aq^9 = 2 \times 2^9$$

$$a, aq, aq^2, aq^3, \dots \quad a'_n = a(1-q), aq(1-q), aq^2(1-q), \dots$$

$\times q$

$$a - aq = a(1-q)$$

$$q' = \frac{aq(1-q)}{a(1-q)} = q$$

د

$$aq - aq^2 = aq(1-q)$$

$$aq^2 - aq^3 = aq^2(1-q)$$

د

$$\text{الف) } S_n = \frac{n}{2} (2a + (n-1)d)$$

$$a_1, a_2, a_3, \dots, a_{n-1}, a_n$$

د

$$a_1 + a_n = a_2 + a_{n-1} = a_3 + a_{n-2}$$

$$\Rightarrow S_n = \frac{n}{2} (a_1 + a_n) \Rightarrow S_n = \frac{n}{2} (a_1 + a_1 + (n-1)d) \Rightarrow S_n = \frac{n}{2} (2a + (n-1)d)$$

$$\text{ب) } S_n = a + aq + aq^2 + aq^3 + \dots \quad \left. \begin{array}{l} S_n \\ q \times S_n \end{array} \right\} = (q \times S_n) - S_n = aq^n - a$$

$$q \times S_n = aq + aq^2 + aq^3 + aq^4 + \dots \quad S_n(q-1) = aq^n - a \quad S_n = a \left(\frac{q^n-1}{q-1} \right)$$