نام و نام خانوادگی ......نیوزا مجیدی...... پاسخنامه تشریحی تکلیف شماره ....۱۳.... کلاس ...دهم تجربی...

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$t_1 = a = 40$

$t_4 = a + 3d = 61$

$3d = 61 - 40 = 21$

$d = 7$

$t_n = 40 + 7(n-1)$

$t_n = 40 + 7(n-1) = 208$

$208 - 40 = 7n - 7$

$7n = 175$

$n = 25$

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$100 \leq 7n + 3 \leq 999$

$97 \leq 7n \leq 996$

$13/\ldots \leq n \leq 142/\ldots$

$14 \leq n \leq 142$

$\text{تعداد} = \frac{142 - 14}{1} + 1 = 129$

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$n = 1 \longrightarrow a_2 + a_3 + a_4 = 6$

$a + d + a + 2d + a + 3d = 6$

$3\underbrace{(a + 2d)}_{2} = 6$

$n = 2 \longrightarrow a_3 + a_4 + a_5 = 0$

$a + 2d + a + 3d + a + 4d = 0$

$3\underbrace{(a + 3d)}_{0} = 0$

$\begin{cases} a + 3d = 0 \\ a + 2d = 2 \end{cases} \longrightarrow d = -2, \quad a = 6$

$a_{17} + a_8 = a + 16d + a + 7d$

$2a + 23d = 12 - 46 = -34$

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$t_{12} - t_{10} = 5 \longrightarrow a + 11d - a - 9d = 2d = 5 \longrightarrow d = 2/5$

$t_{12} + t_{10} = a + 11d + a + 9d = 2(a + 10d) = 25 \longrightarrow 2a = -25$

$a = -12/5$

$t_n = -12/5 + 2/5(n-1)$

$t_{21} = -12/5 + 2/5(20) = 50 - 12/5 = 37/5$

$x-2d + x-d + x + x+d + x+2d = \frac{1}{3}(x+3d + x+2d + x+d + x-d + x-2d)$

$5x = \frac{1}{3}(5x + 2d)$

$3x = \frac{5x}{3} + \frac{2d}{3}$

$\frac{10x}{3} = \frac{2d}{3} \rightarrow x = 2d$

$\frac{t_2}{t_1} = \frac{x-d}{x-2d} = \frac{2d-d}{2d-2d} = \frac{d}{0} = \frac{11d}{0} = \infty$

$t_3 = t_{3-3} + 15 \Rightarrow t_3 = 15 \rightarrow t_3 = a + 2d = 15$

$t_5 = t_3 + 15 = 30 \rightarrow t_n = 3n$

$a = 3$

$d = \frac{30-15}{3} = 5$

$\frac{t_9^2 - t_6^2}{t_2} = \frac{27^2 - 18^2}{3(9)} = 45$

$d = \frac{4\sqrt{3} - \sqrt{3} + 12\sqrt{3}}{13} = \frac{13\sqrt{3}}{13} = \sqrt{3}$

$d = \frac{3^{n-2}}{3^n - 2} = \frac{3^0}{2(2n-1)} = \frac{15}{2n-1}$

$t_{n+1} = 11 = a + n(d)$

$11 = 2 + n\underbrace{\left(\frac{15}{2n-1}\right)}_{9} \rightarrow \frac{15n}{2n-1} = 9$

$15n = 18n - 9$

$3n = 9$

$\rightarrow n = 3$

$t_n + t_{n+2} = t_3 + t_7$

$t_n = 2t_{\frac{n}{2}} \longrightarrow t_6 = 2t_2$

$a + 3d, 2a + 3d$

$-2a = 0$

$a = 0$

$a + 2d = 3a + 9d$

$-2a = 2d$

$a = d \rightarrow t_n = a + (n-1) - a$

$2a - an \rightarrow t_n = 0$