

نام و نام خانوادگی علی حبیبیان پاسخنامه تشریحی تکلیف شماره ۱۳ ... کلاس پسر

$$t_1 = 4 \quad t_2 = 61 \Rightarrow 3d = 61 - 4 = 57 \Rightarrow d = 19$$

$$201 = \sqrt{n + \frac{t_1 + t_2}{2}} \Rightarrow 141 = \sqrt{n} \Rightarrow n = 19 \Rightarrow 201 = t_{1+19} = t_{20}$$

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$$x \mid 3$$

$$\Rightarrow x = 3k + 1 \rightarrow 100 \leq 3k + 1 \leq 999$$

$$97 \leq 3k \leq 998$$

$$129 \leq k \leq 332 \text{ و } k \in \mathbb{N} \Rightarrow n(k) = 142 - 14 + 1 = 129$$

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$$a_{n+1} + a_{n+2} + a_{n+3} = -5n + 12$$

$$a_{n+1} + a_{n+2} + a_{n+3} = 3a_1 + (3n+3)d = 3a_1 + 3nd + 3d = -5n + 12 \Rightarrow 3a_1 + 3nd + 3d = -5n + 12$$

$$a_{17} + a_{18} = 3a_1 + 3d = 3a_1 + (3n+3)d = -5n + 12 \rightarrow n = 10, 5 \Rightarrow a_{17} + a_{18} = -42 + 12 = -30$$

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$$t_1 = 2^x - 1 \quad t_2 = 2^{x+1} \quad t_{12} = 2^{2x} - 3$$

$$S = \sqrt{12} + 4$$

$$\frac{2^{2x} - 3 + 2^x - 1}{2} = 2^{x+1} \Rightarrow S = \frac{2^{2x} + 2^x}{2^{x+1}} = \frac{2^{2x} - 3 + 2^x - 1}{2^{x+1}} \Rightarrow 12 = 2^{2x} \Rightarrow 2x = 3 \Rightarrow x = 1, 5$$

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$$t_{12} - t_1 = 2d = 5 \Rightarrow d = 2, 5$$

$$t_1 + t_{12} = 25 = 2t_1 + 2d = 5 + 2t_1 \Rightarrow 2t_1 = 20, t_1 = 10 \Rightarrow t_{11} = t_1 + 2d = 20 + 10 = 30$$

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$$2t_1 + 1 \cdot d = \frac{1}{r} \times (2t_1 + 20d) \rightarrow \frac{1}{r} t_1 = \frac{20}{r} d \xrightarrow{\times r} r t_1 = 20d \Rightarrow \frac{t_r}{t_1} = \frac{t_1 + d}{t_1} = \frac{\frac{20}{r} d}{\frac{1}{r} d} = 20$$

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$$t_n = t_{n-r} + 10 \rightarrow r d = 10 \rightarrow d = 10$$

$$\frac{t_1^r - t_0^r}{t_v} = \frac{t_1^r - t_0^r}{\frac{t_1 + t_0}{r}} = \frac{t_1 - t_0}{t_1 - t_0} \times \frac{r}{t_1 + t_0} = r t_1 - r t_0 = r t_1 - r t_0 = r t_1 - r \cdot 0 = r \cdot r d$$

$$\Rightarrow -r \cdot r d = -r \cdot 10 = -10$$

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$$\begin{aligned} t_{1f} &= r + \sqrt{r} \\ t_1 &= r(1 - \sqrt{r}) \end{aligned} \Rightarrow r d = r + \sqrt{r} - r + 12\sqrt{r} = 12\sqrt{r} \Rightarrow d = \sqrt{r}$$

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$$\begin{aligned} r r - r &= r_0 = (r n - r) d \\ t_n = 11 &= r + (n-1)d = 1(n-1)d = 9 \end{aligned} \Rightarrow \frac{9}{n-1} = \frac{r_0}{r n - r} \rightarrow r_0 n - r_0 = r_0 n - r_0$$

$$9n = 9, n = 1$$

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$$n + n + r = r + 17 \Rightarrow r n = 17 \Rightarrow n = 1$$

$$\frac{t_1}{t_f} = \frac{t_1 + v d}{t_1 + r d} = r \rightarrow r t_1 + r d = t_1 + v d \Rightarrow r t_1 + r d = 0 \Rightarrow t_1 + d = 0 \Rightarrow t_r = 0$$

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