

نام و نام خانوادگی شماره پاسخنامه تشریحی تکلیف شماره ۱۰۰ کلاس
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$$t_n = 5, 9, 13, 17, \dots \rightarrow t_n = 4n + 1$$

$$t_{10} = 4 \times 10 + 1 = 41$$

$$t_n = 7, 10, 13, 16, \dots \rightarrow t_n = 3n + 7 \rightarrow t_{10} = 37$$

$$S_{10} = \frac{10}{2} (7 + 37) = \frac{10 \times 44}{2} = 220$$

$$a_{11} + a_{22} + a_{33} + a_{44} = 11 + 12 + 13 + 14 = 50$$

$$\rightarrow a_{44} = 4 \times 10 + 2 = 42$$

$$1 + \sqrt{3}, 2, 3 - \sqrt{3} \rightarrow d = 1 - \sqrt{3} \rightarrow a_{15} < a_{16}$$

$$a_{16} - a_{15} = 9 + 2\sqrt{3} - 1 - 2\sqrt{3} = -2\sqrt{3} = -2(1 - \sqrt{3}) = -2 + 2\sqrt{3}$$

$$a_n = \frac{r^n}{\Delta}, \frac{r^n}{\Delta}, \Delta \rightarrow d = r \times \Delta^n - \Delta^{r^n} = r \times \Delta^{r^n}$$

$$b_n = x, r, y \rightarrow \frac{y+x}{r} = 2 \rightarrow y+x=4$$

$$-y+rx=-1$$

$$rx=3 \rightarrow x=1 \Rightarrow xy=3 \times 1 = 3$$

$$2x-3, 2x-1, 2x, \dots \rightarrow -3, -1, 1, 3, \dots \rightarrow t_n$$

$$\frac{a+c}{r} = b \rightarrow a+c=rb \rightarrow 2x+2x-3=2x-1 \rightarrow 2x=1 \rightarrow x=\frac{1}{2}$$

$a_n = \frac{r_1}{r_1 + r_2} \Delta_1, \frac{r_2}{r_1 + r_2} \Delta_2, \dots \rightarrow r_{n+1} \Rightarrow a_{r_n} = r_1$
 $b_n = \frac{r_1}{r_1 + r_2} \Delta_1, \frac{r_2}{r_1 + r_2} \Delta_2, \dots \rightarrow r_{n-1} \Rightarrow b_{r_n} = a_9$

$4n - 1 \leq 41 \rightarrow 4n \leq 42 \rightarrow n \leq 10.5 \rightarrow \bar{n} = 10$
 $t_1 = 11$

$$a_1 + a_r + a_y = r_1 \rightarrow a_1 + a_1 + d + a_1 + r_0 d = r_1 \rightarrow r_0 a_1 + r_0 d = r_1 \rightarrow r_0(a_1 + d) = r_1 \rightarrow a_1 + d = \frac{r_1}{r_0}$$

$$a_1 + a_y + a_0 = l_0 d \rightarrow a_1 + a_1 + r_0 d + a_1 + r_0 d = l_0 d \rightarrow r_0 a_1 + r_0 d = l_0 d \rightarrow r_0(a_1 + r_0 d) = l_0 d \rightarrow a_1 + r_0 d = \frac{l_0 d}{r_0}$$

$$a_1 = \frac{r_1}{r_0} - d$$

$$a_r = \frac{r_1}{r_0} - d$$

$$a_y = \frac{r_1}{r_0} - d$$

$$\Rightarrow d = r_1$$

$$\Rightarrow \frac{a_r - a_r + a_1}{a_1} = \frac{r_0 d - r_0 d + (-r_1)}{-r_1} = \frac{r_0}{-r_1} = \left(-\frac{1}{r_0}\right)$$

$$\begin{aligned} a_1 + a_r + a_v &= 1\Delta \rightarrow a_1 + a_r + a_v + a_r + a_v = 1\Delta \rightarrow 3a_1 + 2a_v = 1\Delta \rightarrow 3(a_1 + a_v) = 1\Delta \rightarrow a_1 + a_v = \frac{1}{3}\Delta \\ a_r + a_v &= \frac{1}{3}\Delta \rightarrow a_1 + 2a_v + a_1 + a_v = \frac{1}{3}\Delta \rightarrow 2a_1 + 3a_v = \frac{1}{3}\Delta \\ a_1 + a_v &= \frac{1}{3}\Delta \rightarrow a_1 + 2a_v = \frac{1}{3}\Delta \rightarrow a_1 = \frac{1}{3}\Delta - 2a_v \end{aligned}$$

$$S_1 = \frac{q}{r}(a_1 + a_4) / S_4 = \frac{v}{r}(a_1 + a_4)$$

$$\frac{x}{x}(a_1 + a_4) = \frac{x \times v}{x}(a_1 + a_4) \rightarrow a_1 + a_4 = v(a_1 + a_4) \rightarrow a_1 + a_1 + a_4 = v a_1 + v a_1 + a_4$$

$$\Rightarrow \frac{a_1}{a_4} = \frac{a_1 + a_4}{a_1 + v a_1} = \frac{a_1 + a_4}{a_1(1+v)} = \frac{1+v}{1} = (1+v)$$

$$\begin{cases} a_1 = 11 \\ a_r = a_1 + r \cdot d = 11 + r \cdot d = 32 \rightarrow r \cdot d = 21 \rightarrow d = 7 \end{cases} \quad \begin{cases} a_8 = b_8 = a_1 + 7 \cdot d = 11 + 7 \cdot 7 = 60 = b_8 \end{cases}$$

$$32, \dots, 60 \rightarrow 32, \underbrace{39, 46, 53, 60}_{17} \quad b_8 = a_1 + 7 \cdot d$$

$$d = \frac{32 - 60}{\frac{7+1}{2}} = \frac{-28}{4} = -7$$

$$\frac{17 - 32}{n + 1} = -7 \quad n + 1 = 7 \rightarrow n = 6$$