

کلاس: دقتاً نصف A

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19.12

$$\{1\}, \{2, 3, 4\}, \dots$$

$$\{1^2+1, \dots, 9^2\}$$

$$\frac{11+4\omega}{12} = \frac{144}{12} = \sqrt{12}$$

(2) ✓

$$\{1, 2, 3\}, \{4, 5, 6, 7, 8\}, \{9, 10, 11, 12, 13, 14\}, \{15, 16, 17, 18, 19, 20\}$$

$$\{21, 22, \dots, 34, 35\}$$

$$\frac{121+343}{2} = \frac{464}{2} = 232$$

(2) ✓

$$a_n \begin{cases} r^k; & n=3k \\ -2k+r; & n=3k+1 \\ \left\lfloor \frac{n^2}{k+r} \right\rfloor + a; & n=3k+2 \end{cases}$$

$$\begin{aligned} n=3k+r & \rightarrow \begin{cases} n=2, k=0 \rightarrow \left\lfloor \frac{4}{0+2} \right\rfloor + a = 1+a \\ n=5, k=1 \rightarrow \left\lfloor \frac{25}{1+2} \right\rfloor + a = 1+a \\ n=8, k=2 \rightarrow \left\lfloor \frac{64}{2+2} \right\rfloor + a = 8+a \end{cases} \end{aligned}$$

$$(1) + (2) + (3) = 2a + 8a = 10a$$

$$\begin{aligned} n=3k & \rightarrow \begin{cases} a_0 = 1^0 = 1 \\ a_3 = 2^1 = 2 \\ a_6 = 3^2 = 9 \\ a_9 = 4^3 = 64 \end{cases} \end{aligned}$$

$$\begin{aligned} n=3k+1 & \rightarrow \begin{cases} a_1 = 1 \\ a_4 = 2 \\ a_7 = 0 \end{cases} \end{aligned}$$

$$a = -2$$

$$a_2 + a_5 + \dots + a_{14} = 9(-1) + (-1) + (0) + \dots + (0) = -10$$

$$a_2 = 1, a_5 = 14, 2$$

$$ax^2 + bx + c$$

$$\begin{cases} 2a + 5b + c = 14 \\ 4a + 14b + c = 14, 2 \end{cases} \rightarrow 12a + b = 14$$

$$a = \frac{1}{12}x - 14 \Rightarrow a = -0,2 \rightarrow b = 14$$

(2) ✓

$$2a \times (0, 2) + 5 \times 14 + c = 14 \rightarrow c = -1$$

$$\begin{aligned} a_{12} &= -0,2 \times 14^2 + 14 \times 14 - 1 = 14 \\ a_1 &= -0,2 + 14 - 1 = 13,8 \end{aligned} \rightarrow \frac{a_{12}}{a_1} = \frac{14}{13,8} = a$$

حسابی $a_r = \frac{a}{r}$ ، $a_1 = tv$ فقط $a_{10} = \text{صفر}$ $\frac{a_{10}}{d} = ?$ (5)

حسابی $x' + 3d' + x' + vd' = x + d + x + yd$ فقط $x + 9d = 0$

حسابی $2x' + 10d' = 2x + 10d = -11d$ $x = -9d$

$\frac{a_{10}}{d'} = \frac{x + 10d}{d'} = \frac{-9d + 10d}{d'} = \frac{d}{d'} = \sqrt{r}$ ✓

$\begin{cases} x' + 3d' = x + d = -8d \\ 2x' + 10d' = -11d \\ x' + vd' = -3d \end{cases} \Rightarrow 4d' = 5d \rightarrow d' = \frac{5}{4}d$

$4(a+r)^r = 5a_r a + 3a_r a$ $\frac{a_r}{d} = ?$ $\frac{a+3d}{d}$ (6)

$4(a+d)^r = (a) (5x(a+rd) + 3x(a+d))$

$4x(a^r + d^r + 2ad^r) = a (5a + 10d + 3a + 3d) \rightarrow 4a^r + 4d^r + 8ad^r = 8a^r + 13ad^r$

$\rightarrow a = -2d \quad \vee \quad a = \frac{3}{4}d$ ✓

$\frac{a_r}{d} = \frac{a+3d}{d} = \frac{a}{d} + 3 = -2 + 3 = 1 \quad \vee \quad \frac{a}{d} + 3 = \frac{3}{4} + 3 = \frac{15}{4}$ ✓

$4a^r + 4d^r - 8ad^r = 0$
 $\div 4 \rightarrow a^r + d^r - 2ad^r = 0$
 $(a+rd)(a - \frac{3}{4}d) = 0$ 15

حسابی a, b, c حسابی $a \leftarrow b, \frac{a}{r}, \frac{c}{r} \rightarrow aqr$ $r_q = ?$ (7)

$b - a = c - b$
 $c = 2b - a$

$q = \frac{a}{r} = \frac{a}{rb} = \frac{a}{r} = \frac{c}{ra} \rightarrow a^r = bc$ 18

$\frac{a}{b} = \frac{-1 \pm \sqrt{1+1}}{2} = \frac{-1 \pm \sqrt{2}}{2}$ $\frac{a}{b} = -r$

$q = \frac{a}{rb} = \frac{r}{r} = -1 \rightarrow r_q = -r$ ✓

$a^r = b(2b - a)$
 $a^r = 2b^r - ab$
 $a^r + ab - 2b^r = 0$ 21

$(\frac{a}{b})^r + \frac{a}{b} - 2 = 0$

حسابی a, b, c حسابی c, ra, rb (8)

$b = aq, c = aqr$

$ra - c = rb - ra$
 $ra - aqr = rb - ra$

$r - qr = r - r$ ✓

$rq - r + qr = 0$ $q = 1$ عق

$(q+r)(q-1) = 0 \quad \vee \quad q = -r$

$\frac{t_q}{t_r} = \frac{aq^r}{aqr} = q^r$ $\sqrt{-4r}$

$\sqrt{+1}$ ✓

چون فلات نماز هفتاد

$$\frac{a_q}{(a_r)^r} + \frac{a_r}{(a)^r} = r$$

$$\frac{a^r}{a_r} = ?$$

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$$\frac{a_q^a}{(a_q)^r} + \frac{a_q}{a^r} = r \rightarrow \frac{q^r}{a^r} + \frac{q}{a} = r \rightarrow \frac{q^r}{a^r} + \frac{q}{a} - r = 0$$

$$\left. \begin{array}{l} \frac{q}{a} = 1 \\ \frac{q}{a} = -r \end{array} \right\}$$

$$\frac{a^r}{a_r} = \frac{a^r}{a_q} = \frac{a}{q} = \int -\frac{1}{r} \frac{1}{a} da$$

✓

$$L \quad q = -\frac{1}{r} \frac{1}{a} da$$

$$a_p = \sqrt{a_r} \quad , \quad a_a = r v \quad \frac{1}{r} - a_r = ?$$

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$$a q^r = \sqrt{a q^r} \rightarrow a^r q^r = a q^r \rightarrow a q = 1$$

$$a q^r = r v \rightarrow \frac{1}{a q} \times q^r = r v \rightarrow q^r = r v \rightarrow q = r$$

$$a \times r = 1$$

$$a = \frac{1}{r}$$

$$\frac{1}{r} - \frac{1}{r} = \int \frac{1}{r}$$

✓