

۱۸، ۵

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۱۸، کلاس A

$$\begin{aligned}
 q_1 + a_1 r + a_1 r^2 &= 21 \rightarrow a_1 (1+r+r^2) = 21 \\
 a_1 \cdot a_1 r \cdot a_1 r^2 &= 24 \rightarrow a_1^3 \cdot r^3
 \end{aligned}$$

$\frac{1+r+r^2}{r} = \frac{14}{r}$
 $4r^2 - 14r + 4 = 0$
 $r = \frac{1}{4}$
 $a_1 = 14$
 $\delta = \frac{1}{4}$

چون سه حسابی است پس حساب نمی کنیم

$$r = \frac{x^r + 4}{2x} = \frac{2x}{2x-2} \rightarrow x^r - 2x^2 + 4x^r - 1 \rightarrow x^2(2x^r - 2) = 1$$

$x = \begin{cases} 2 \\ -2 \end{cases}$
 $\delta = \frac{1}{2}$
 $S_V = 1 \left(\frac{1 - (\frac{1}{2})^4}{1 - \frac{1}{2}} \right) = \frac{15}{8}$

$$S_\omega = a_1 \left(\frac{1 - q^r}{1 - q} \right) \rightarrow 242 \times \left(\frac{1 - \frac{1}{11}}{1 - \frac{1}{11}} \right) = 292$$

$$S_\omega \rightarrow q_1 + a_1 r + a_1 r^2 + a_1 r^3 + a_1 r^4 = (1+r+r^2+r^3+r^4) a_1 = 242$$

$\frac{4\omega - 1}{\omega + 1} = 10, \omega$
 $A = 100 \times \omega$
 $a_F = a_1 + r d = 1 + 3 \times 10, \omega = 31, \omega$
 $A + B = 100, \omega$
 $A + B = 31, \omega$
 $B = -1$

$$d = \frac{-\frac{90}{4} - (-24)}{2-1} = 0,2\omega = \frac{1}{5}$$

$$a_{101} = a_1 + 100d = -24 + (100 \times \frac{1}{5}) = 1$$

$$a_n = a_1 r^{n-1} = 1$$

$$128 \times r^{n-1} = 1$$

$$128 = \frac{1}{r^{n-1}} \Rightarrow r = \sqrt[n-1]{128} = \frac{1}{2}$$

$a_p \rightarrow a_1$
 $a_v \rightarrow a_2$
 $a_q \rightarrow a_3$

$a_2^r = a_1 a_p \rightarrow (a_1 + rd)^r = (a_1 + rd)(a_1 + rd)$
 $a_1^r + 2rd^r + 1^2 d^2 = a_1^2 + 2a_1 rd + r^2 d^2 + d^2$

(1,5)

$d = \frac{a}{10} \checkmark$

$d = 0$

* حواست باشه چون حرفها از مختارین بعدین جملات تیره $d = 0$ نیز قبیل قبول است!

$a_2 \rightarrow a_1$
 $a_f \rightarrow a_2$
 $a_g \rightarrow a_3$

$a_2^r = a_1 a_3 \rightarrow (a_1 + rd)^2 = (a_1 + rd)(a_1 + rd)$
 $- 2ad + d^2 = 0$

(2)

$d = 0$
 $d = a$

$a_2 = 2a$
 $a_f = fa$
 $a_1 = 1a$
 $\delta = 2$

$a_{10} = \frac{1}{f} \times r^q = r \times r^9 = r^{10}$ ✓

$2ar \quad 2ar^2 \quad ar^3 \rightarrow 2ar^2 - 2ar = ar^3 - 2ar^2$

$a \delta^2 \times (r - 2) = r^2 - f \delta + 3$

$\delta = 1 \text{ ب } 3$

ل چون سوال گفته غیر ثابت است

$\delta = 3$ ✓

(2)

1

$r = \frac{1}{f}$
 $\frac{1}{f} > \frac{v}{f} > \dots$
 $d = -\frac{1}{f}$

$a_2^r = a_1 + rd = \frac{1}{f} - \frac{r}{f} = \frac{d}{f}$

$a_1 = a_1 + rd = \frac{1}{f} - \frac{v}{f} = \frac{1}{f}$

$a_{12} = a_1 + rd = \frac{1}{f} - \frac{12}{f} = -1$

فردا به علاوه $-\frac{21}{f}$ می کنیم

$-\frac{20}{f} \geq -\frac{10}{f} > -\frac{14}{f}$
 $r = \frac{-20}{-10} = \frac{-14}{-10} \rightarrow \frac{2}{5}$ ✓

(2)

9

$a_1 + a_2^r + a_3^r = v^r$
 $\downarrow \quad \downarrow \quad \downarrow$
 $a_1 \quad a_2 \quad a_{10}$

$d = a_2^r - a_1$

$10a_2^r - Va_1 = v^r$

$a_1(10r^r + r^y) = v^r \quad a(10r^r - v) = a(10r^y)$

$9ar^r - Va = a_1 + a_2^r + a_3^r$

$q = 1 \text{ ب } 2$

$a_1 = 1$

(1,5)

10

$d = a_2^r - a_1 = 1 \times r^2 - 1 = v \checkmark$

حالت دوم $\rightarrow q = 1 \quad d = 0$