

$$a \times aq \times aq^r = (aq)^r = r^r \rightarrow aq = r$$

$$q = \frac{1}{r} \quad (1 \text{ Mark})$$

$$a + aq + aq^r = \frac{r}{q} + r + rq = r1 \rightarrow \frac{r + rq + rq^r}{q} = r1 \rightarrow rq^r - 14q + r = 0$$

$$\Rightarrow q = \frac{-(-1V) \pm \sqrt{(-1V)^2 - 4(1)(-2)}}{2 \times 1} = \frac{1V \pm \sqrt{1+8}}{2} \rightarrow \left\{ \begin{array}{l} \ominus \frac{r}{\lambda} = \frac{1}{2} \rightarrow \text{غير محاسبه} \\ \oplus r \times \lambda \end{array} \right.$$

$$\text{نصف اولی} \Rightarrow (x)^r = (x^r + c)(x^r - c) \Rightarrow c x^r = x^r + x^r - \lambda \Rightarrow x^r - x^r - \lambda = 0 \Rightarrow (x^r - c)(x^r + c) = 0$$

(سوال ۲)

$$\rightarrow (x-r)(x+r)(x^r+r) = 0 \quad \begin{cases} x=r & \checkmark \quad (\lambda, \ell, r, \dots) \\ x=-r & (\lambda, -\ell, r, \dots) \times \end{cases} \quad \begin{matrix} a_1 = 1 \\ q = \frac{1}{r} \end{matrix}$$

$$S_v = \lambda \left(\frac{1 - \left(\frac{1}{r}\right)^v}{1 - \frac{1}{r}} \right) = 14 \left(1 - \frac{1}{r^v} \right) = 14 - \frac{14}{r^v} = 14 - \frac{1}{\lambda} = 14 \frac{v}{\lambda}$$

$$S_{\omega} = a + aq + aq^r + aq^r + aq^r = a(1 + q + q^r + q^r + q^r) \rightarrow r \times r \times \frac{121}{11} = \underline{342}$$

(۳) جواب

$$1, \dots, A, \dots, Y^R$$

$$Y_{t-1} - A = A - 1$$

$$2A = 4\omega \rightarrow A = 2\omega$$

$$1, \dots, \beta, \dots, \gamma^k$$

$$\frac{\gamma^{\kappa}}{\beta} = \frac{\beta}{1} \rightarrow \beta^{\gamma} = \gamma^{\kappa} \rightarrow \beta = \pm 1$$

$$A+B = \psi(\omega) \pm \Lambda \begin{matrix} \nearrow \psi(\omega) \\ \searrow \psi(\omega) \end{matrix}$$

$$-r\kappa, -r^2\frac{w}{\kappa}, \dots \quad \left\{ \begin{array}{l} d = \frac{1}{\kappa} \\ a = -r\kappa \end{array} \right.$$

$$a_{1,1} = a_{1+1,0} = -r^0 + 1.00 \times \frac{1}{r^0} = 1$$

سوال ۷)

از رابطه فوق میسر : $a_1 = 12\lambda$, $a_\lambda = a q^\vee = 1 \rightarrow \frac{a_\lambda}{a_1} = \frac{1}{12\lambda} \rightarrow q^\vee = \left(\frac{1}{12}\right)^\vee \rightarrow q = \frac{1}{12}$

$$a_r, a_v, a_g \rightarrow a+rd, a+rd, a+rd$$

سوال ۶)

وایه هندسی : $(a+rd)^r = (a+rd)(a+(r-1)d) \rightarrow ar^r + 1ra + r^2d = ar^r + 1ra + r^2d \rightarrow ra + r^2d = 0$

$$\Rightarrow \underbrace{rd(a+1.d)}_{\text{در صورت } d} = c \Rightarrow a = -1.d \rightarrow d = -\frac{a}{1.}$$

$$a+d, a+rd, a+vd$$

(5 سوال)

بنا بر اساس : $(a+rd)^r = (a+d)(a+vd) \rightarrow a^r + r a d + d^r = a^r + r a d + v d^r \rightarrow r d^r - r a d = 0$

$\rightarrow r d(d-a) = 0 \Rightarrow a = d$ بنا بر اساس : $r a, r^2 a, r^3 a, \dots \rightarrow q = r$

$t_{10} = a q^9 \rightarrow \frac{1}{r} \times r^9 = r^8 = 128$

$$r a q, r a q^r, a q^r$$

$q = 3$ (1 سوال)

بنا بر اساس : $r(r a q^r) = r a q + a q^r \rightarrow a q^r - r a q^r + r a q = 0 \rightarrow a q (q^r - r q + r) = 0$

$\rightarrow a q (q-1)(q-r) = 0 \quad \begin{cases} q=1 \text{ (رد می شود)} \\ q=3 \checkmark \end{cases}$

$$\begin{cases} a = r \\ d = -\frac{1}{r} \end{cases}$$

$$a_r = r + r(-\frac{1}{r}) = 1 - \frac{1}{r} = \frac{r-1}{r}$$

$$a_{13} = r + 12(-\frac{1}{r}) = -1$$

(9 سوال)

بنا بر اساس : $\frac{r-1}{r} + x, \frac{1}{r} + x, -1 + x$

بنا بر اساس : $(\frac{1}{r} + x)^r = (\frac{r-1}{r} + x)(x-1) \rightarrow \frac{1}{r^r} + \frac{1}{r} x + x^r = x^r + \frac{1}{r} x - \frac{r-1}{r} \rightarrow \frac{1}{r^r} x = \frac{-r+1}{r} \rightarrow x = \frac{-r+1}{r}$

بنا بر اساس : $\frac{-17}{r}, \frac{-20}{r}, -\frac{r-1}{r} \rightarrow q = \frac{-\frac{r-1}{r}}{\frac{-20}{r}} = \frac{-r+1}{-20} \Rightarrow \frac{r-1}{20}$

$$a, a q^r, a q^r$$

(10 سوال)

$a, a+d, a+vd$ بنا بر اساس : $(a+d)^r = a(a+vd) \rightarrow a^r + r a d + d^r = a^r + r a d \rightarrow d^r = v a d \rightarrow d = v a$

$a + a q^r + a q^r = a + a + d + a + v d = v^3 \rightarrow r a + 1.0 d = v^3 \xrightarrow{*} r a + 1.(v a) = v^3 \rightarrow v^3 a = v^3 \rightarrow a = 1$

$a = 1 \rightarrow d = v a \rightarrow d = v$