

19, 17, 13

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره ۱۱۱ کلاس (نام و نام خانوادگی)

$$\frac{a}{q} \quad a \quad aq \Rightarrow \frac{a}{q} \times a \times aq = a^3 = 4f \Rightarrow a = \sqrt[3]{4f} = \boxed{f}$$

$$\frac{f}{q} \quad f \quad fq \Rightarrow \frac{f}{q} + f + fq = \frac{f + fq + f^2 q}{q} = 11 \Rightarrow f + fq + fq^2 = 11q$$

$$fq^2 - 11q + f = 0$$

$$q^2 - 11q + 14 = 0 \Rightarrow (q-1)(q-14) = 0$$

$$\Rightarrow q = \frac{1}{f}$$

$$q = \frac{14}{f} = \frac{1}{f} \quad \text{و چون } q \text{ صحیح است}$$

$$x^2 + f, x^2, x^2 - 2 \Rightarrow (x^2 + f)(x^2 - 2) = f x^2$$

$$x^4 - 2x^2 + f x^2 - 2f = 0$$

$$x^4 - 2x^2 + f x^2 - 2f = 0$$

$$(x^2 - 2)(x^2 + f) = 0$$

$$x^2 - 2 = 0 \Rightarrow x = \pm \sqrt{2}$$

$$x^2 + f = 0 \Rightarrow x = \pm \sqrt{-f}$$

$$\Rightarrow S_v = 14 \times \left(\frac{1 - \frac{1}{f}}{1 - \frac{1}{f}} \right) = 14 \left(1 - \frac{1}{f} \right)$$

$$14 - \frac{14}{f} = 14 - \frac{1}{f} = \frac{13}{f}$$

$$x = \sqrt{2} \Rightarrow 1, f, \sqrt{2} \quad q = \frac{1}{f}$$

$$x = -\sqrt{2} \Rightarrow 1, -f, \sqrt{2} \quad q = \frac{1}{f}$$

$$a_1 + a_2 + a_3 + a_4 + a_5 \Rightarrow a_1 + a_1 q + a_1 q^2 + a_1 q^3 + a_1 q^4 = a_1 (1 + q + q^2 + q^3 + q^4) =$$

$$10 \times \frac{1}{f} \times \frac{1}{f} = \boxed{10 \times \frac{1}{f^2}}$$

$$1 \quad 4f \rightarrow d = \frac{t_n - t_m}{n - m} \Rightarrow \frac{4f - 1}{10 - 1} = \frac{4f - 1}{9} = d$$

$$1 \rightarrow d = A \Rightarrow a_f \Rightarrow a_1 + (n-1)d \Rightarrow 1 + 9 \times \frac{4f - 1}{9} = 37, 10$$

$$1 \quad 4f \rightarrow \frac{a_n}{a_1} = q^{n-1} \Rightarrow \frac{4f}{1} = q^4 \Rightarrow q = \pm \sqrt[4]{4f} \Rightarrow$$

$$A + B \rightarrow 37, 10 + 1 = 38, 10$$

$$\rightarrow 37, 10 - 1 = 36, 10$$

$$B = a_f \rightarrow a_1 q^{(n-1)} = 1 \times q^9 = \boxed{1}$$

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$$1f, \frac{-40}{f}, \dots \Rightarrow d = \frac{-40}{f} + 1f = \frac{-40 + 9f}{f} = \frac{1}{f}$$

$$a_{101} = a_1 + (n-1)d \Rightarrow -1f + 100 \times \frac{1}{f} = -1f + 100 = \boxed{1}$$

$$111, a_2, \dots \Rightarrow a_n = 1 \rightarrow a_1 q^{(n-1)} = 111 \times q^9 = 1 \Rightarrow q^9 = \frac{1}{111} \Rightarrow q = \frac{1}{\sqrt[9]{111}}$$

$$a_1+rd, a_1+4d, a_1+9d \Rightarrow (a_1+nd)(a_1+rd) = (a_1+4d)^r$$

$$\Rightarrow a_1^r + r a_1 d + n a_1 d + 1 r d^r - a_1^r - r a_1 d + 1 r a_1 d \Rightarrow r a_1 d + r d^r = 0$$

$$r d (a_1 + 1 \cdot d) = 0$$

$$\begin{cases} d=0 \\ a_1+10d=0 \\ 10d = -a_1 \\ d = \frac{-a_1}{10} \end{cases}$$

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$$a_1+d, a_1+rd, a_1+vd \Rightarrow (a_1+d)(a_1+vd) = (a_1+rd)^r$$

$$a_1^r + v a_1 d + a_1 d + v d^r = a_1^r + r d^r + v a_1 d$$

$$r d^r - v a_1 d = 0 \Rightarrow r d (a_1 - d) = 0$$

$$\begin{cases} d=0 \text{ غير ممكن} \\ a_1 = d \end{cases}$$

$$d = a_1 + rd, rd, nd \Rightarrow q = r \Rightarrow a_1 = a_1 q^q \Rightarrow \frac{1}{r} \times r^q = \frac{r^q}{r} = r^{q-1} = 1 \Rightarrow r = 1$$

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$$r a_1, r a_1^2, a_1^r \Rightarrow \frac{a_1 q^r + r a_1 q}{r} = r a_1 q^r$$

$$a_1 q^r + r a_1 q = r a_1 q^r$$

$$a_1 q^r (q^r + r) = r q (a_1 q)$$

$$q^r - r q + r = 0$$

$$(q-1)(q-r) = 0 \Rightarrow \begin{cases} q=1 \\ q=r \end{cases}$$

ليكون

غير قابل قبول چون ثابت مسطور

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$$r, \frac{r}{r}, \dots \Rightarrow d = \frac{r}{r} - r = -\frac{1}{r}$$

$$a_r = a_1 + (n-1)d \Rightarrow r + r_x - \frac{1}{r} = \frac{n-r}{r} = \frac{\omega}{r}$$

$$a_n = a_1 + (n-1)d \Rightarrow r + v_x - \frac{1}{r} = \frac{n-v}{r} = \frac{1}{r}$$

$$a_{1r} = a_1 + (n-1)d \Rightarrow r + 1r_x - \frac{1}{r} = -1$$

$$\Rightarrow \frac{\omega}{r} - \frac{r_1}{r}, \frac{1}{r} - \frac{r_1}{r}, -1 - \frac{r_1}{r} \Rightarrow -\frac{r}{r}, -\frac{\omega}{r}, -\frac{r\omega}{r}$$

$$\frac{\omega}{r} + x, \frac{1}{r} + x, -1 + x$$

$$\Rightarrow (\frac{\omega}{r} + x)(-1 + x) = (\frac{1}{r} + x)^r$$

$$-\frac{\omega}{r} + \frac{\omega}{r}x - x + x^2 = \frac{1}{r} + \frac{\omega}{r}x + \frac{1}{r}x$$

$$\frac{\omega}{r}x - x - \frac{1}{r}x = \frac{1}{r} + \frac{\omega}{r}$$

$$\frac{\omega x - r x - x}{r} = \frac{1}{r} + \frac{\omega}{r}$$

$$\Rightarrow x = \frac{r_1}{r} \Rightarrow x - r = -\frac{r_1}{r}$$

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$$a, a_1 q^r, a_1 q^y \Rightarrow a_1 + a_1 q^r + a_1 q^y = v^r \Rightarrow a_1 (1 + q^r + q^y) = v^r$$

$$r a_1 (1 + r^r + r^y) = v^r \Rightarrow$$

$$A_1, A_1 + d, A_1 + 9d = v^r \Rightarrow \begin{cases} A_1 = A_1 \\ a_1 q^r = A_1 + d \\ A_1 (q^r - 1) = d \end{cases}$$

$$\begin{cases} A_1 q^y = A_1 + 9d \\ A_1 = A_1 \\ A_1 (q^y - 1) = 9d \end{cases} \Rightarrow \frac{A_1 (q^y - 1) = 9d}{A_1 (q^r - 1) = d} \Rightarrow \frac{q^y - 1}{q^r - 1} = 9$$

$$q^r = x \Rightarrow x^r - 1 - 9x + 9 = 0$$

$$x^r - 9x + 8 = 0 \Rightarrow (x-1)(x-8) = 0 \Rightarrow \begin{cases} x=1 \\ x=8 \end{cases}$$

$$x = q^r = 1 \Rightarrow q = 1$$

$$x = q^r = 8 \Rightarrow q = 2$$

$$a_1 (1 + 8 + 64) = v^r \Rightarrow a_1 = \frac{v^r}{73}$$

$$A_1 = \frac{a_1}{1} \Rightarrow A_1 (q^r - 1) = d$$

$$1(8-1) = v = d$$

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