

Date:

لیکھا انوری - دھم B

$$\frac{x}{r} \cdot x \cdot xr = 44 \rightarrow \boxed{x=4} \quad , \quad \frac{4}{r} + 4 + 4r = 21$$

سوال ۱:

۱، ۷۵

$$\frac{4 + 4r + 4r^2}{r} = 21 \rightarrow 4 + 4r + 4r^2 = 21r \rightarrow 4r^2 - 17r + 4 = 0 \rightarrow r^2 - 17r + 14 = 0$$

در صورت سوال لفتہ شدہ

۹ غلطی است!

$$r = \frac{17}{4} = 4 \rightarrow \frac{4}{4} + 4 + 4 \times 4 = 1 + 4 + 16 = 21 \checkmark$$

$$\rightarrow (r-14)(r-1) \rightarrow r = \frac{1}{4} \rightarrow 14 + 4 + 1 = 21 \checkmark$$

سوال ۲:

$$x^2 + 4 = 2n, \quad x^2 - 2 \rightarrow 4x^2 = x^4 + 4x^2 - 2x^2 - 4$$

$$x^4 - 2x^2 - 4 = 0 \rightarrow (x^2 - 2)(x^2 + 2) \rightarrow x = \pm 2$$

$$S_v = n \left(\frac{\frac{1}{r}^v - 1}{\frac{1}{r}} \right) = \frac{12v}{\frac{1}{r}}$$

$\Rightarrow$ $\boxed{x=2} \rightarrow 1, 4, 2$

لغتہ صوری $r > 0$

$r = \frac{1}{2}$

سوال ۳:

$$a + ar + ar^2 + ar^3 + ar^4 = ? \quad a(1 + r + r^2 + r^3 + r^4) = \frac{121}{11} \times 243$$

$$\rightarrow \frac{121}{1-11} \times 243 = \frac{343}{6}$$

سوال ۴:

دالہ $d = \frac{b-a}{n+1} \rightarrow \frac{43}{6} = 10.5 \rightarrow 1, 11, 5, 122, 22.5, \text{ } \text{ } , 44$

وسط A

$r^{n+1} \rightarrow B = r^{n+1} \Rightarrow r^6 = 44 \rightarrow \boxed{r = \pm 2}$

$\rightarrow A + B = 32, 5 + 11 = 40, 5$

$\rightarrow A + B = 32, 5 + (-1) = 24, 5$

$$-2r, -9a, \dots \rightarrow d = \frac{-9a}{r} + 2r = \frac{-9a + 9r}{r} = \frac{1}{r} \rightarrow \dots$$

سؤال ۵:

$$a_n = -2r + (n-1) \frac{1}{r} \Rightarrow a_{1.1} = 1 \rightarrow 128r^v = 1 \rightarrow r^v = \frac{1}{128} \rightarrow r = 2^{-1}$$

$$(a+rd)^r = (a+rd)(a+rd) = a^2 + 2ard + r^2d^2 = a^2 + 2ard + r^2d^2$$

سؤال ۶:

$$20d^2 + 2ad = 0 \rightarrow d(20d + 2a) = 0 \rightarrow d = 0 \text{ یا } d = -\frac{1}{10}a$$

$$d = 0 \text{ X}$$

صدمات متناهی نیستند

$$20d = -2a \rightarrow d = -\frac{1}{10}a$$

$$d = -\frac{1}{10}a$$

$$\rightarrow a + rd = a + \frac{-2a}{10} \rightarrow \frac{4a}{10} = \frac{4a}{5} \quad a + rd = a + \frac{-2a}{10} = \frac{4a}{10} = \frac{2a}{5}$$

$$d = \left(\frac{\frac{2a}{5}}{\frac{4a}{5}} \right) = \frac{2}{4} = \frac{1}{2} \quad \text{یا } d = 0 \rightarrow a, a, a \rightarrow \text{جواب}$$

$$a \rightarrow \frac{1}{r} = \frac{-1a}{10} \rightarrow a = \left(\frac{\frac{1}{r}}{\frac{-1}{10}} \right) = \frac{-10}{r} = -5$$

$$(a+rd)^r = (a+rd)(a+rd) \rightarrow a^2 + 2ard + r^2d^2 = a^2 + 2ard + r^2d^2$$

سؤال ۷:

$$2d^2 - 2ad = 0 \rightarrow d(2d - 2a) = 0 \rightarrow d = 0 \rightarrow \frac{1}{r}, \frac{1}{r}, \dots \text{جواب}$$

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

$$\frac{1}{r} + \frac{1}{r} + \frac{1}{r} + \frac{r}{r} \rightarrow \frac{r}{r} + \frac{r}{r} \rightarrow r = \frac{1}{\frac{1}{r}} = r$$

$$a_{1.1} = \frac{1}{r} \times r^9 = r^8 = 128 \quad \text{یا} \quad a_{1.1} = \frac{1}{r}$$

$$d = \frac{1}{r} \rightarrow$$

سؤال ۸: $\varphi ar^2, \varphi ar^3, ar^3 \rightarrow \varphi ar^2 = \varphi ar + ar^2 \rightarrow \varphi ar^2 = ar(r + r^2)$

$\rightarrow \varphi r = r + r^2 \rightarrow r^2 - \varphi r + r = 0 \rightarrow (r-1)(r-\varphi) \rightarrow r=1$ ~~لغة غیر ثابت پس~~
~~غیر ثابت قبول است.~~
 $\checkmark r = \varphi \checkmark$

سؤال ۹: $\varphi, \frac{\varphi}{f}, \dots \rightarrow d = \frac{\varphi}{f} - \frac{1}{f} = \frac{-1}{f} \left(a_n = r + (n-1)\left(\frac{-1}{f}\right) = r - \frac{n}{f} + \frac{1}{f} = \frac{-n}{f} + \frac{q}{f} \right)$

۱، ۵

$a_f = a + \varphi d = a + \frac{-\varphi}{f} \xrightarrow{a=r} \frac{1}{f} + \frac{-\varphi}{f} = \frac{a}{f}$

$a_n = a + \varphi d = a + \frac{-\varphi}{f} \rightarrow \frac{1}{f} + \left(\frac{-\varphi}{f}\right) = \frac{1}{f} \Rightarrow \left(\frac{1}{f} + n\right)^2 = \left(\frac{a}{f} + n\right)(-1+n)$

$a_{14} = a + 14d = a + -\varphi \rightarrow r + (-\varphi) = -1$

حاصلات دنباله $\rightarrow (-\varphi, -\varphi, -\varphi, \dots) \rightarrow q = \frac{ar}{a_1} = \frac{-\varphi}{-\frac{\varphi}{f}} = \frac{a}{f}$

$\frac{1}{14} + \cancel{n} + \frac{1}{f} n = \frac{-\varphi}{f} + \frac{a}{f} n - n + \cancel{n} \rightarrow \frac{\varphi}{14} = \frac{-1}{f} n \rightarrow n = \frac{\frac{\varphi}{14}}{\frac{-1}{f}} = \frac{\varphi \times \varphi}{-1 \times 14} = \frac{-\varphi}{14}$

سؤال ۱۰: ۱، ۵ $a + ar^3 + ar^4 = \varphi^3 \rightarrow a(1+r^3+r^4) = \varphi^3$

$ar^3 = a + d \rightarrow a(r^3-1) = d, \quad a+9d = ar^4 \rightarrow a(r^4-1) = 9d \Rightarrow \frac{9d}{d} = \frac{a(r^4-1)}{a(r^3-1)}$

$\frac{9d}{d} = \frac{(r^4+1)(r^3-1)}{r^3-1} = \frac{9d}{d} = r^3+1 \rightarrow r^3=1 \rightarrow \boxed{r=1}$

$\Rightarrow a(1+1+4\varphi) = \varphi^3 \rightarrow \varphi^3 a = \varphi^3 \rightarrow \boxed{a=1}$ $ar^4 = 1 \times 1^4 = 1 \varphi = a+9d$

۱+9d = 4\varphi \rightarrow 9d = 4\varphi \rightarrow \boxed{d=\varphi} حاصلات نزدیکاً متغایر هستند پس میتوانست حد بماند!

$q=1 \rightarrow \varphi a = \varphi^3 \rightarrow a = \frac{\varphi^3}{\varphi}$

$aq^4 - a = d \xrightarrow{q=1} \frac{\varphi^3}{\varphi} - \frac{\varphi^3}{\varphi} = 0 \rightarrow d=0$