

آزمین پور عسکری ۱۹ آفرین خیر کونوتر !

Subject:

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$$a_1 = 40$$

$$a_n = a_1 + (n-1)d = 41 \rightarrow a_1 + 3d = 41 \rightarrow 40 + 3d = 41$$

$$\rightarrow 3d = 41 - 40 \rightarrow 3d = 1 \rightarrow d = \frac{1}{3}$$

$$a_n = a_1 + (n-1)d \rightarrow a_1 + nd - d = 40 + 7(n) - \frac{1}{3} = 201$$

$$\rightarrow 141 = 7n - \frac{1}{3} \rightarrow 141\frac{1}{3} = 7n \rightarrow n = 20$$

۲- در این سوال از فرمول ادی - آخری ۱ = تعداد اشتداد می بین

$$\text{عدد اول پیدا شد} \rightarrow \frac{101}{14} \rightarrow \frac{101}{14} = 7 \text{ باقیمانده } 3$$

$$\text{عدد آخری باشد} \rightarrow \frac{999}{142} \rightarrow \frac{999}{142} = 7 \text{ باقیمانده } 3$$

$$\text{حال ۷ اسف زیرا در اصل داریم } 7+3, 14+3, 21+3, \dots$$

$$a_{n+1} + a_{n+2} + a_{n+3} = a_n + d + a_n + 2d + a_n + 3d = 3a_n + 6d$$

$$3a_n + 6d = -4n + 12$$

$$n=1 \text{ اگر } 3a_1 + 6d = -4(1) + 12 \rightarrow 3a_1 + 6d = 8$$

$$\rightarrow a_1 + 2d = \frac{8}{3} \rightarrow a_1 = \frac{8}{3} - 2d$$

$$n=2 \text{ اگر } 3a_2 + 6d = -4(2) + 12 \rightarrow 3(2d) + 6d = -4 \rightarrow 12d = -4 \rightarrow d = -\frac{1}{3}$$

$$4d = -12 \rightarrow d = -3 \text{ و } a_1 = 4$$

$$a_n = a_1 + (n-1)d = 4 + (n-1)(-3) = -n + 7$$

$$a_{15} = a_1 + 14d = 4 + 14(-3) = -38$$

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ازین دوری
راه حل یسین بریکه نونه

$$a_1 - a_{12} = 2d \quad \left\{ \begin{array}{l} r b = a + c \end{array} \right. \quad 1-4$$

$$a_{12} - a_1 = 2d$$

$$\rightarrow r^{12} - r + r^{12} - 1 = r^{12+1} \rightarrow r^{12} (r + 1) - \varepsilon = r^{12+1}$$

$$\rightarrow r^{12} + 1 - \varepsilon = r^{12} \rightarrow r^{12} + 1 = \varepsilon \rightarrow r^{12} = \varepsilon$$

$$\rightarrow r^{12} - r + r^{12+1} + r^{12} - 1 = r^{12} \left(\frac{r^{12}}{r} + \frac{r^{12+1}}{r} + 1 \right) - \varepsilon$$

$$\rightarrow \varepsilon - \varepsilon = 144$$

$$a_1 + 11d - a_1 - 9d = 2d = 2 \rightarrow d = 1, 0$$

$$a_1 + 11d + a_1 + 9d = 2a_1 + 20d = 2a \rightarrow 2a_1 = -2a$$

$$a_1 = -1r/0 \rightarrow a_{11} = a_1 + 10d = \frac{10 \cdot 1/0}{-1r/0}$$

$$r \times (a_1 + a_{12} + a_{12} + a_{12} + a_{12}) = a_1 + a_{12} + a_{12} + a_{12} + a_{12} \cdot 4$$

$$\rightarrow r(a_1 + 11d) = (a_1 + 11d) \rightarrow ra_1 + 11rd = a_1 + 11d$$

$$ra_1 - a_1 = 0 \rightarrow ra_1 = a_1$$

$$\rightarrow \frac{a_{12}}{a_1} = \frac{a_1 + d}{a_1} \rightarrow \frac{11d}{1} = \frac{11d}{1}$$

$$d = 1$$

$$t_n = t_{n-1} + 1 \rightarrow t_{12} = t_9 + 1 \rightarrow t_9 = t_{12} - 1$$

$$t_1 = t_0 + 1 \rightarrow t_0 = t_1 - 1$$

$$t_{12} - t_9 = 3d = 3 \rightarrow d = 1$$

$$\rightarrow (t_9 + t_0)(t_9 - t_0) \rightarrow r(t_9 + t_0)$$

$$\frac{\varepsilon \cdot t_v}{t_v} = \frac{11 \cdot 1}{1}$$

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آذین پوری سرتی

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$$\text{از فرمول اول} \rightarrow d = \frac{b-a}{n+1} \rightarrow \frac{2+\sqrt{3}}{13} \rightarrow 2+12\sqrt{3} \quad -1$$

$$\boxed{\sqrt{3}}$$

$$\text{از فرمول دوم} \rightarrow \frac{32-2}{2n+2} = d \cdot \frac{9}{n} \rightarrow$$

$$a_{n+1} = 11 \rightarrow a_n + d = 11 \rightarrow a_1 + nd = 11 \rightarrow d = \frac{11-a_1}{n}$$

$$\rightarrow \frac{3}{2n+2} = \frac{9}{n} \rightarrow 3 \cdot n = 18n + 18 \rightarrow 4n = -18 \rightarrow n = -\frac{9}{2}$$

$$a_{17} + a_{19} = a_n + a_{n+2} \rightarrow n = 17$$

$$a_{17} = 3(a_1) \rightarrow a_1 + 16d = 3(a_1 + 16d) \rightarrow a_1 + 16d = 3a_1 + 48d$$

$$2a_1 + 16d = 0 \rightarrow a_1 + 8d = 0 \rightarrow \boxed{a_1 = -8d}$$

آذین پوری سرتی

$$a_3 + a_{13} = a_1 + a_{11}$$

سوال 4

$$r^n - 1 + r^{2n} - r = r(r^{2n+1})$$

$$r^{2n} - r = r(r \times r^n) - r^n$$

$$r^{2n} - r \times r^n - r = 0 \rightarrow r^2 = t$$

$$t^2 - 4t - 1 = 0 \rightarrow t = 2 \rightarrow r^2 = 2 \rightarrow n = 2$$

$$b = -1 \quad \text{عقده}$$

$$\text{حاصل} \rightarrow \frac{r^2-1}{r} \div \frac{r^{2+1}}{r} \div \frac{r(r)}{r^2-r} = \boxed{24}$$

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