نام و نام خانوادگی ..تینا یاسمین.. پاسخنامه تشریحی تکلیف شماره ..۱۷.. کلاس ..دهم ریاضی B..

۲۰ آفرین به شما

۱

$\{1\}, \{2,3,4\}, \{5,6,7,8,9\}, \{10,11,12,13,14,15,16\}$

$1^2 \quad 2^2 \quad 3^2 \quad 4^2 \to 9^2 = 81$ عدد آخر

عدد اول: عدد آخر دسته قبلی $+1$ → عدد آخر دسته هشتم $+1 = 65$

هشتم $\to 8^2 = 64$

$\frac{81+65}{2} = \boxed{73}$

۲

۲

$\{1,2,3\}, \{4,5,6,7,8,9,10,11,12\}, \{13,14,\dots,39\}, \{40,\dots,120\}, \{121,\dots,363\}$

$4\times3=12$

$13\times3=39$

$40\times3=120$

$121\times3=363$

$\frac{363-121}{1}+1=243$

$\frac{363+121}{2}\times243=58806$

$\frac{58806}{243}=\boxed{242}$

۲

۳

$a_1 \to 3k+1 \to k=0 \to 4$

$a_2 \to 3k+2 \to k=0 \to 1+a$

$a_3 \to 3k \to k=1 \to 2$

$a_4 \to 3k+1 \to k=1 \to 2$

$a_5 \to 3k+2 \to k=1 = 1+a$

$a_6 \to 3k \to k=2 \to 4$

$a_7 \to 3k+1 \to k=2 \to 0$

$a_8 \to 3k+2 \to k=2 \to 2+a$

$a_9 \to 3k \to k=3 \to 8$

$a_{10} \to 3k \to k=0 \to 2^0=1$

$4+1+a+2+2+1+a+4+0+2+a+8+1=19 \to 25+3a=19 \to a=\boxed{-2}$

$a_2, a_5, a_8, \dots, a_{29} \to -1, -1, 0, 0, 0, 0, 0, 0, 0, 0 = \boxed{-2}$ جواب

۲

۴

$an^2+bn+c \to 25a+5b+c=14$

$49a+7b+c=17.2$

$a=\frac{1}{70}(\underbrace{-25a-5b-c}_{-14}) \to a=-\frac{14}{70}=-\frac{1}{5}$ → $-\frac{1}{5}n^2+4n-1 \to \frac{a_{15}}{a_1}=\frac{14}{\frac{14}{5}}=\boxed{5}$ جواب

$\frac{172}{10}+\frac{98}{10}=\frac{270}{10}$ ، $49\times2=98$

$\begin{cases}(25\times-\frac{1}{5})+5b+c=14\\(49\times-\frac{1}{5})+7b+c=17.2\end{cases} \to \begin{cases}5b+c=19\\7b+c=27\end{cases}$

$2b=8 \to \boxed{b=4}$

جایگذاری $20+c=19 \to \boxed{c=-1}$

$-\frac{1}{5}+\frac{20}{5}-\frac{5}{5}=\frac{14}{5}$

$(-\frac{1}{5}\times1)+(4\times1)-1$

۲

۵

a_1+3d, a_1+7d

$an+b \quad 7a+b$

$3a+b \xrightarrow{+5d}$

$\frac{a_1+7d-a_1-3d}{5}=\frac{4}{5}d \to 0.8d$ درست

$a_n=an+b$

$a_n=0.8dn+b \to a_{10}=0.8d\times10+b=0$ ، $b=-8d$

$\to a_{15}=0.8d(15)-8d=$

$\frac{8}{10}\times\frac{15}{1}=12d-8d=4d$

$\frac{4d}{d}=\boxed{4}$ جواب

۲

$a_2 = x \qquad 6x^2 = 5(x+d)(x-d) + 3x(x-d)$

$5(x^2-d^2)$

$5x^2 - 5d^2 + 3x^2 - 3xd$

$2x^2 - 5d^2 - 3xd = 0 \longrightarrow x = \frac{+3d \pm \sqrt{9d^2+40d^2}}{4} \quad = 49d^2 \quad \nearrow \frac{10}{4}d \quad \searrow -1d$ ب ۶

$a_4 = a_2 + 2d \quad \nearrow \frac{10}{4}d + 2d = \boxed{4.5d} \quad \searrow -d + 2d = \boxed{d} \quad \Rightarrow \frac{4.5d}{d} = \boxed{4.5} \quad \frac{d}{d} = \boxed{1}$

$\underset{d\ \ d}{c^{(1)}\ b^{(2)}\ a^{(3)}} \qquad c \quad c+d \quad c+d+d$

$c \quad c+d \quad c+2d \qquad q = -1 \rightarrow 2q = \boxed{-2}$

← جواب ب

$\frac{c}{4}^{(1)} \quad \frac{a}{2}^{(2)} \quad b^{(3)} \quad (\times q \ \times q)$

$\frac{c}{4} + \frac{c+2d}{2} + c+d \xrightarrow{\text{واسطه هندسی}} \left(\frac{c+2d}{2}\right)^2 = (c+d)\left(\frac{c}{4}\right) \rightarrow \frac{c^2+4d^2+4cd}{4} = \frac{c^2}{4} + \frac{dc}{4}$ ۷

$\cancel{c^2} + 4d^2 + 4cd = \cancel{c^2} + dc \rightarrow 4d^2 = -3cd \rightarrow c = -\frac{4}{3}d \xrightarrow{\text{جایگذاری}} -\frac{1}{3}d, \frac{1}{3}d, -\frac{1}{3}d \quad q = -1$

$\xrightarrow{\text{هندسی}} a, b, c \downarrow \frac{b}{q}, b, bq \qquad \text{حسابی} \rightarrow c, 2a, 3b \quad bq, \frac{2b}{q}, 3b \qquad 3b - \frac{2b}{q} = \frac{2b}{q} - bq$

$3b = \frac{4b}{q} - bq \rightarrow 3b = \frac{4b - bq^2}{q}$ ب ۸

$\text{هندسی } \frac{a_9}{a_6} \ ? \ q^3 \rightarrow (-4)^3 = \boxed{-64} \qquad 3bq = 4b - bq^2 \rightarrow bq^2 + 3bq - 4b = 0$

← جواب $\qquad$ ~~غ ق ق~~ $\leftarrow 1 \quad -4 \Leftarrow q = \frac{-3b \pm \sqrt{9b^2+16b^2}}{2b}$

$\frac{a^2}{a_2} = ? \qquad \frac{aq^5}{(aq)^3} + \frac{aq}{(a)^2} = 2 \rightarrow \frac{q^2}{a^2} + \frac{q\times a}{a\times a} \quad \frac{q^2+aq}{a^2} = 2 \rightarrow q^2 + aq = 2a^2$

$aq + q^2 - 2a^2 = 0$ ب ۹

$q = \frac{-a_1 \pm \sqrt{a_1^2 + 8a_1^2}}{2} \ \nearrow a_1 \Rightarrow a_2 = a_1^2 \ \searrow -2a_1 \rightarrow a_2 = -2a_1^2$

$\frac{a^2}{a_1^2} = \boxed{1} \rightarrow$ جواب $\qquad \frac{a^2}{-2a^2} = \boxed{-\frac{1}{2}} \rightarrow$ جواب

$a_3 = \sqrt{a_4}$

$a_3^2 = a_4 \qquad a_5 = aq^3 \times q \qquad \left(\frac{27}{q^3}\right)^2 = \frac{27}{q} \rightarrow 27\times q^4 = 27^2 \times q$

$a_5 = 27 \qquad \frac{27}{q} = a_4 \qquad 27 = q^3 \rightarrow q = 3$

$(aq^2)^2 = aq^3 \qquad \frac{27}{q} = aq^3 \rightarrow a = \frac{27}{q^4} \rightarrow a = \frac{27}{3^4} = a = \frac{3^3}{3^4} = \frac{1}{3}$ ب ۱۰

$a^2q^4 = aq^3$

$\frac{1\times 3}{2\times 3} - \frac{1\times 2}{3\times 2} = \boxed{\frac{1}{6}} \rightarrow$ جواب