

کلاس : دهم دختره

نام و نام خانوادگی : آلاء سید علی با سقمه تشریح کلتیما : ۱۷

جهای اول به  $44 = 8^2$  → دسته هفتم  
 جمله شانزده  $9^2 = 81$  → دسته نهم  
 ... و  $2^2$  و  $3^2$  و  $1^2$   
 (۱) (۲) (۳)  
 (۱) (۲)  
 $8^2$  → جمله هفدهم  
 $\Rightarrow$  جمله اول  $\rightarrow 44 + 1 = 45$  دسته نهم  
 $b = \frac{a+c}{2}$  و  $a+c = b$   
 $\rightarrow b = \frac{45+81}{2} = \frac{126}{2} = 63$   
 جواب

میانگین هر دسته = چهاری وسط  
 $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$  و  $\{13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24\}$   
 (۱) (۲) (۳)  
 جمله ۳ جمله ۹ جمله ۱۷  
 $\rightarrow$  تعداد اجزای دسته پنجم  $= 10^5 = 100000$   
 میانگین اجزای دسته پنجم  $= 100000 - 1 = 99999$   
 میانگین اجزای دسته پنجم  $= 243 - 1 = 242$   
 جواب

$a_n = \begin{cases} r^k; n=mk \\ -rk+\varepsilon; n=mk+1 \end{cases} \rightarrow n=1 \rightarrow k=0 \rightarrow -r \cdot 0 + \varepsilon = r$   
 $n=2 \rightarrow k=0 \rightarrow -r \cdot 0 + \varepsilon = r$   
 $n=3 \rightarrow k=1 \rightarrow -r \cdot 1 + \varepsilon = -r + \varepsilon$   
 $n=4 \rightarrow k=1 \rightarrow -r \cdot 1 + \varepsilon = -r + \varepsilon$   
 $n=5 \rightarrow k=2 \rightarrow -r \cdot 2 + \varepsilon = -2r + \varepsilon$   
 $n=6 \rightarrow k=2 \rightarrow -r \cdot 2 + \varepsilon = -2r + \varepsilon$   
 $n=7 \rightarrow k=3 \rightarrow -r \cdot 3 + \varepsilon = -3r + \varepsilon$   
 $n=8 \rightarrow k=3 \rightarrow -r \cdot 3 + \varepsilon = -3r + \varepsilon$   
 $n=9 \rightarrow k=4 \rightarrow -r \cdot 4 + \varepsilon = -4r + \varepsilon$   
 $n=10 \rightarrow k=4 \rightarrow -r \cdot 4 + \varepsilon = -4r + \varepsilon$   
 $S_{10} = r + r + 1 + a + r + 1 + a + r + r + a + 1 + 1 = 25 + 4a$   
 $a_2, a_3, a_4, \dots \rightarrow n=4k+r \rightarrow 25 + 4a = 19 \rightarrow 4a = -6 \rightarrow a = -\frac{3}{2}$   
 $\frac{10a}{10 \times -2} + (1 + 1 + 2 + 2 + \dots + 2) = -20 + (2 + 14) = -4$   
 جواب

$a_5 = 13$   $a_7 = 17, 2$   $an^2 + bn + c$   $a = \frac{1}{5} \times -\frac{1}{5} = -\frac{1}{5}$   
 $-\frac{1}{5}n^2 + bn + c \rightarrow -\frac{1}{5} \times 5^2 + 5b + c = 13 \rightarrow -1 + 5b + c = 13 \rightarrow 5b + c = 14$   
 $-\frac{1}{5} \times 7^2 + 7b + c = 17, 2 \rightarrow -\frac{49}{5} + 7b + c = 17, 2 \rightarrow 7b + c = \frac{49}{5} + \frac{172}{10} = \frac{91 + 172}{10} = \frac{263}{10} = 26, 3$   
 $\begin{cases} 5b + c = 14 \\ 7b + c = 26, 3 \end{cases} \Rightarrow 2b = 12, 3 \rightarrow b = 6, 15$   
 $5b + c = 14 \rightarrow 5 \times 6, 15 + c = 14 \rightarrow \frac{5 \times 615}{10} + c = 14 \rightarrow c = -1$   
 $-\frac{1}{5}n^2 + 6, 15n - 1 \rightarrow \frac{a_{10}}{a_1} = \frac{-\frac{1}{5} \times 10^2 + 61, 5 \times 10 - 1}{-\frac{1}{5} \times 1^2 + 61, 5 - 1} = \frac{-20 + 615 - 1}{-\frac{1}{5} + 60, 5} = \frac{594}{60, 5 - \frac{1}{5}} = \frac{594}{\frac{302, 5 - 1}{5}} = \frac{594 \times 5}{301, 5} = \frac{2970}{301, 5} = 9, 85$   
 برابر ۵  
 جواب

نام و نام خانوادگی: ...

پایه هفتم ترم اول

کلاس: ...

$a^r = a_r$   $a_1 = a_v$   $a_0 = 0$   $\frac{a^r}{a^r} = \frac{15a+b}{\frac{a}{r}d} = \frac{15a-10a}{\frac{a}{r}a} = \frac{5a}{\frac{a}{r}} = \boxed{5}$  جواب

$a+rd = 2a+b$   $a+rd = 7a+b$   $b = -10a$   
 $a+rd = -10a$   $a+rd = -2a$   $\rightarrow \begin{cases} a+rd = -10a \\ a+rd = -2a \end{cases} \rightarrow rd = 8a \rightarrow d = \frac{8}{r}a$

$4(a+d)^r = 5(a+rd) + 3(a+d)a \rightarrow 4(a^r + d^r + r a d^r) = 5a^r + 10a d^r + 3a^r + 3a d^r$   
 $4a^r + 4d^r + 4r a d^r = 8a^r + 13a d^r$   
 $4d^r + 4r a d^r - 13a d^r = 4a^r$   
 $4d^r - 9a d^r = 4a^r$   
 $d^r(4 - 9a) = 4a^r$   
 $d^r = \frac{4a^r}{4 - 9a}$   
 $d = \frac{4a}{4 - 9a}$

$c, b, a \rightarrow$   $\frac{c}{r}, \frac{a}{r}, b \rightarrow$   $b, \frac{b-d}{r}, \frac{b+d}{r}$   $\frac{(b-d)^r}{r} = \frac{b(b+d)}{r}$   
 $a = b-d$   $c = b+d$   $\frac{b^r + d^r - 2b d^r}{r} = \frac{b^r + b d^r}{r} \rightarrow 3b d^r = d^r \rightarrow d = 3b \rightarrow b, \frac{b^r b}{r}, \frac{b+r b}{r}$   
 $b, \frac{-2b}{r}, \frac{4b}{r} \rightarrow b, -b, b \rightarrow r = -1 \rightarrow 2r = 2x - 1 = \boxed{-2}$  جواب

$c, b, a \rightarrow$   $c, r a, r b \rightarrow$   $\frac{a^r}{a^r} = \frac{a^r}{a^r} = r^r$   
 $\frac{a^r}{a^r} = r^r$   
 $r b = c + a \rightarrow 3a r + a r^r = 4a$   
 $a r(r+r) = 4a \rightarrow r = 1$   
 $r = -2$   
 $r^r - 1 = 1 \rightarrow r^r = 2$   
 $r = 2$   
 $(1-r)^r = \boxed{-64}$  جواب

$\frac{a^r}{(a^r)^r} + \frac{a^r}{(a^r)^r} = r \rightarrow \frac{a^r}{a^{r^2}} + \frac{a^r}{a^r} = \frac{a^r + a^r r^r}{a^{r^2}} = \frac{a^r(r+1)}{a^{r^2}} = r$   
 $\frac{r(r+1)}{a^r} = r \rightarrow r a^r = r^r + a r \rightarrow r a^r - r^r - a r = 0 \rightarrow r a^r - r a r - r r^r = 0 \rightarrow (r a - r)(r a + r) = 0$   
 $r(a-r)(r a + r) = (a-r)(r a + r) \rightarrow r = a \rightarrow r = -r a$   
 $\frac{a^r}{a^r} = \frac{r}{a}$   $r = a$   $\frac{a}{a} = \boxed{1}$  جواب  
 $r = -r a$   $\frac{-r a}{a} = \boxed{-2}$  جواب

$a^r = 2v$   $a^r = a_x \rightarrow (a^r)^r = a^{r^2} \rightarrow a^{r^2} = a^{r^2} \rightarrow a r = 1 \rightarrow a r = 1$   
 $a r^r = 2v \rightarrow a r x r^r = 2v \rightarrow r^r = 2v \rightarrow r = 2 \rightarrow a r^r = 2v \rightarrow a x 11 = 2v \rightarrow a = \frac{2v}{11} = \frac{1}{11}$   
 $\frac{1}{r} - \frac{1}{r} = \frac{r-r}{r} = \boxed{\frac{1}{4}}$  جواب