

نام و نام خانوادگی ..... آیدین جلیلی ..... پاسنامه تشریحی تکلیف شماره ۱۷... کلاس ۷.....

$\{1\}, \{2, 3, 4\}, \{5, 6, 7, 8, 9\}$   
 $\downarrow \quad \downarrow \quad \downarrow$   
 $1^2 \quad 2^2 \quad 3^2$   
 $\frac{(1^2+1)+9^2}{2} = \frac{60+11}{2} = \frac{144}{2} = 72$

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$\{1, 2, 3\}, \{4, \dots, 12\}, \{13, \dots, 24\}, \{25, \dots, 36\}, \{37, \dots, 48\}$

$$\frac{121+363}{2} = \frac{484}{2} = 242$$

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$a_0 + a_1 + \dots + a_9 = 1 + (-1) + (a+1) + (-1) + (a+1) + (-1) + 0 + a + (-1) + 1 = a$   
 $a = -1$

$a_n = \left[ \frac{n}{2} \right] + a \rightarrow -1 + (-1) + \dots + 0 = -1$

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$$t_n = an^2 + bn + c$$

$$t_0 = 14$$

$$a = \frac{1}{v_0}(-14) = -\frac{1}{a} \Rightarrow t_n = -\frac{1}{a}n^2 + bn + c$$

$\begin{cases} t_0 = 14 \\ t_1 = 14/1 \end{cases} \Rightarrow \begin{cases} -\frac{1}{a}(0)^2 + 0b + c = 14 \\ -\frac{1}{a}(1)^2 + 1b + c = 14/1 \end{cases} \Rightarrow \begin{cases} cb + c = 14 \\ vb + c = 14 \end{cases} \Rightarrow \begin{cases} vb + c = 14 \\ vb + c = 14 \end{cases}$

$$t_n = -\frac{1}{a}n^2 + bn + c$$

$$\frac{a_{10}}{a_1} = \frac{-\frac{1}{a}(100) + 10b + c}{-\frac{1}{a} + b + c} = \frac{-100 + 10b + c}{-\frac{1}{a} + b + c}$$

$$= \frac{14}{-\frac{1}{a} + b + c} = 14$$

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$$t_n = t_1 + (n-1)d$$

$$a_n = an + b$$

$$\begin{cases} t_1 = a \\ t_2 = 2a \end{cases}$$

$\begin{cases} t_1 + d = 2a + b \\ t_2 + d = 3a + b \end{cases} \rightarrow t_1 + d = 2a + b \rightarrow t_1 + d = 2a + b$

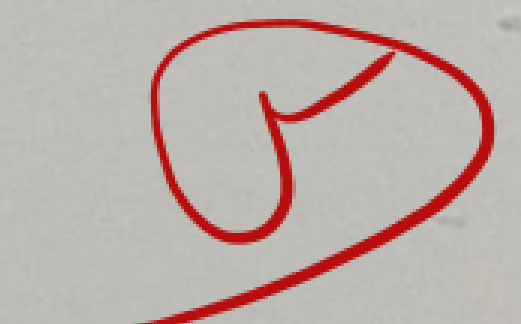
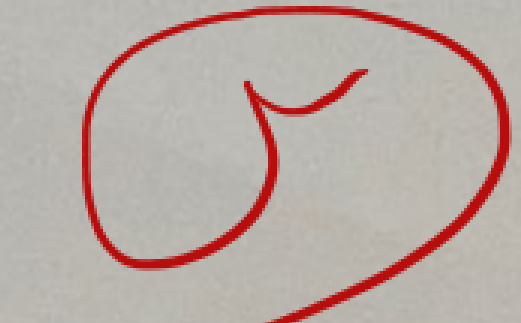
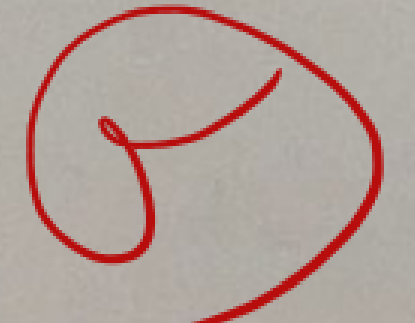
$$a_{10} = 0$$

$$10a + b = 0 \rightarrow b = -10a \rightarrow b = -10 \times \frac{1}{10}d = -1d$$

$$a_{10} = 10a + b \xrightarrow{a = \frac{1}{10}d, b = -1d} a_{10} = 10\left(\frac{1}{10}d\right) - 1d$$

$$\Rightarrow a_{10} = 1d - 1d = 0$$

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| $a_n = a + (n-1)d$ $4a^r = 2a_r a + r a_r d$ $4(a+d)^r = 2(a+rd)a + r(a+d)a$ $4(a^r + rad + d^r) = 2a^r + 2oad + 2ra^r + rad$ $4a^r + 1rad + 4d^r = 1a^r + 1rad$ $3a^r + rad - 4d^r = 0 \rightarrow 3a^r + d(a) - 4d^r = 0$                                                                                                                                  | $a = \frac{-d \pm \sqrt{dr - r(r)(-4d^r)} }{r \times r} = \frac{-d \pm \sqrt{4rd^r}}{r}$ $= \frac{-d \pm \sqrt{4}d}{r} \Rightarrow \begin{cases} a = \frac{-d + \sqrt{4}d}{r} = \frac{rd}{r} = 1/d \\ a = \frac{-d - \sqrt{4}d}{r} = \frac{-3d}{r} = -3d \end{cases}$ <div style="text-align: center;">  </div> $\frac{a^r}{d} = \frac{a+rd}{d} = \begin{cases} \frac{1/d + rd}{d} = r/d \\ \frac{-3d + rd}{d} = 1 \end{cases}$ | <p>8</p>  |
| $b = a + d, c = a + rd \Rightarrow b = \frac{a+c}{r}$ $\frac{a}{b} = \frac{\frac{c}{r}}{\frac{a}{r}} \Rightarrow \left(\frac{a}{r}\right)^r = \frac{bc}{r}$ $a^r = \frac{a+c}{r} c \Rightarrow ra^r = ac + c^r \Rightarrow c^r + ac - ra^r = 0$ $c = \frac{-a \pm \sqrt{a^2 + 1a^r}}{r} = \frac{-a \pm ra}{r}$                                               | $c = -ra$ $b = \frac{a+c}{r} = \frac{a-ra}{r} = -\frac{a}{r}$ $b, \frac{a}{r}, \frac{c}{r} = -\frac{a}{r}, \frac{a}{r}, -\frac{a}{r}$ $r = \frac{\frac{a}{r}}{-\frac{a}{r}} = -1$ <div style="text-align: center;">  </div> $r = r(-1) = -r$                                                                                                                                                                                 | <p>7</p>  |
| $(a-c = rb - ra) \Rightarrow (a-c) = rb$ $b = ar \quad c = ar^r$ $a - ar^r = r(ar) \Rightarrow a - ar^r = ar^2$ $a - ar^r - ar^2 = 0$ $a(1 - r^r - r^2) = 0$ $1 - r^r - r^2 = 0$ $r = -r$                                                                                                                                                                    | $a_n = ar^{n-1}$ $\frac{a_1}{a_4} = \frac{ar^1}{ar^4} = r^r = (-r)^r = -r^r$ <div style="text-align: center;">  </div>                                                                                                                                                                                                                                                                                                       | <p>6</p>  |
| $\frac{d_4}{a^r} + \frac{ar}{a^r} = r \Rightarrow \frac{ar^4}{(ar)^r} + \frac{ar}{a^r} = r \Rightarrow \frac{r^r}{a^r} + \frac{r}{a} = r$ $\frac{r}{a} = t$ $t^r + t = r \Rightarrow t^r + t - r = 0$ $\begin{cases} t=1 \\ t=-r \end{cases} \Rightarrow \begin{cases} \frac{r}{a}=1 \\ \frac{r}{a}=-r \end{cases}$                                          | $\frac{a^r}{a_r} = \frac{a^r}{ar} = \frac{a}{r} \Rightarrow \begin{cases} \frac{a}{r} = \frac{1}{t_1} = 1 \\ \frac{a}{r} = \frac{1}{t_2} = -\frac{1}{r} \end{cases}$ <div style="text-align: center;">  </div>                                                                                                                                                                                                               | <p>9</p>  |
| $a_r = \sqrt{a_r} \Rightarrow a_1 r^r = \sqrt{a_1 r^r} \xrightarrow{\text{square}} a_1^2 r^{2r} = a_1 r^r \xrightarrow{\div a_1 r^r} a_1 r = 1$ $a_0 = rv \Rightarrow a_1 r^r = rv$ $\frac{a_r}{a_1} = \frac{a_1 r^r}{a_1 r} = \frac{rv}{1} \rightarrow r^r = rv \rightarrow r = v$ $\xrightarrow{a_1 r = 1} a_1 \times r = 1 \rightarrow a_1 = \frac{1}{r}$ | $\frac{1}{r} - a_1 = \frac{1}{r} - \frac{1}{r} = \boxed{\frac{1}{r}}$ <div style="text-align: center;">  </div>                                                                                                                                                                                                                                                                                                              | <p>10</p> |