نام و نام خانوادگی [illegible] پاسخنامه تشریحی تکلیف شماره ..۱۲.. کلاس [illegible]

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t_n: 9, 13, 17, … (+4, +4)

الف) $t_n = 4n+1$

ب) $t_{10} = 40+1 = 41$

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$t_n = 6, 10, 14, 18, \dots$ (+4, +4) $a=6,\ d=4$

الف) $S_n = \frac{n}{2}(2a+(n-1)d) \Rightarrow S_{10} = 5(12+(9\times 4)) = 240$

ب) ۴ جمله آخر $\Rightarrow S_4 = \frac{4}{2}((2\times 118)+(3\times 4)) = 496$

جمله اول $\rightarrow a_{29} \Rightarrow a_{29} = 6+(28\times 4) = 118$

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$t_n = 1+\sqrt{3},\ 2,\ 3-\sqrt{3}, \dots$ ($+1-\sqrt{3}$) $d = 1-\sqrt{3},\ a = 1+\sqrt{3}$

$a_{25} - a_{23} = 2d \Rightarrow a_{25} - a_{23} = 2(1-\sqrt{3}) = 2-2\sqrt{3}$

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$a_n = 5^{2x},\ 3\times 5^{2x},\ 5^{y} \Rightarrow d = (3\times 5^{2x}) - 5^{2x} = 2\times 5^{2x}$

$\Rightarrow (5^{2x}\times 3)+(2\times 5^{2x}) = 5^{y} \Rightarrow 5\times 5^{2x} = 5^{y} \Rightarrow 5^{2x+1} = 5^{y} \Rightarrow 2x+1 = y \Rightarrow 2x-y=1$

$b_n = x,\ 2,\ y \Rightarrow d = 2-x = y-2 \Rightarrow y+x = 4$

$\Rightarrow 3x = 5 \Rightarrow x = \frac{5}{3}$

$\frac{10}{3} - y = 1 \Rightarrow y = \frac{7}{3}$

$yx = \frac{7}{3}\times\frac{5}{3} = \frac{35}{9}$

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$t_n = 2x-4,\ 2x-1,\ 6x, \dots$ (d, d)

$d = 2x-1-(2x-4) = 6x-(2x-1) \Rightarrow 4x+1 = 3 \Rightarrow 4x = 2 \Rightarrow x = \frac{1}{2}$

$d = 3$

$t_3 = 6\times\frac{1}{2} = 3$

$t_4 = t_3 + d \Rightarrow t_4 = 6$

$b_n = 2, 5, 8, 11, 14, 17, \dots \Rightarrow b_n = 3n-1$ $a_n = 3, 5, 7, 9, 11, 13, 15, 17, \dots \Rightarrow a_n = 2n+1$ } $n < 20$ $b_{20} = 59 , a_{20} = 41 \Rightarrow M_n < 41 , M_n < 59 \Rightarrow M_n < 41$ $M_n = 5, 11, 17, \dots$ (6, 6) $M_n = 6n-1 \Rightarrow 6n-1 < 41$ $\Rightarrow 6n < 42 \Rightarrow n < 7 \Rightarrow n : 1, 2, 3, 4, 5, 6 \Rightarrow$ شش جمله	۶
$a_1 + a_2 + a_3 = 21$, $a_1 + a_3 + a_5 = 105$ ($7-d$, $7+d$, $7+2d$) $\Rightarrow$ $a + a+d + a+2d = 21 \Rightarrow 3a+3d = 21 \Rightarrow a+d = 7 \Rightarrow a_2 = 7 \Rightarrow a_1 = 7-d$ $7-d+7+d+7+2d = 105 \Rightarrow 21+2d = 105 \Rightarrow 2d = 84 \Rightarrow d = 42 \Rightarrow a_1 = -35$ $a+2d \Leftarrow a_3 = -35+84 = 49$ $\frac{a_3 - a_2 + a_1}{a_1} = \frac{49-7-35}{-35} = \frac{7}{-35} = -\frac{1}{5}$	۷
$a_1 + a_2 + a_3 = 15 \Rightarrow a_2 - d + a_2 + a_2 + d = 15 \Rightarrow 3a_2 = 15 \Rightarrow a_2 = 5 \Rightarrow a_1 = 5-3 = 2$ $a_4 + a_5 = 25 \rightarrow a_2 + 2d + a_2 + 3d = 25 \Rightarrow 10 + 5d = 25 \Rightarrow 5d = 15 \Rightarrow d = 3$ $a_{10} = a_1 + 9d = 2 + 27 = 29$	۸
$S_9 = 9 S_3$ $\frac{9}{2}(2a+8d) = 9 \times \frac{3}{2}(2a+2d) \Rightarrow 2a+8d = 6a+6d \Rightarrow 4a = 2d \Rightarrow 2a = d$ $\frac{a_{20}}{a_7} = \frac{a+19d}{a+6d} = \frac{a+19(2a)}{a+6(2a)} = \frac{39a}{13a} = 3$	۹
$a_1 = 11 , a_7 = 35 \Rightarrow 6d = 24 \Rightarrow d = 4 \Rightarrow a_4 = 11 + (3 \times 4) = 23 , b_4 = a_4 = 23$ $b_1 = 38 , b_n = 13 , b_4 = 23 \Rightarrow 23 - 38 = 3d \Rightarrow d = -5$ $\frac{13-38}{n-1} = -5 \Rightarrow n-1 = \frac{-25}{-5} \Rightarrow n = 6 \rightarrow b_1 \rightarrow b_6$ ۴ واسطه بین این دو است.	۱۰