نام و نام خانوادگی ...... مولوی موحد زاده	**پاسخنامه تشریحی تکلیف شماره** ...... ۱۲ **کلاس** ...... دهم ریاضی ......

۱	الف) $t_n = 4n+1$ $t_n = 5, 9, 13, 17, \ldots$ ، $d=4$ ب) $t_{10} = 4\times10+1 = 41$
۲	الف) $S_{10} = \frac{10}{2}\times(2\times6+4\times9) = 240$ $t_n = 6, 10, 14, 18$ ، $d=4$ ، $a_1=6$ $t_n = 4n+2$ ب) $t_{29}+t_{30}+t_{31}+t_{32} = 3t_{30}+t_{32} = 366+130 = 496$ $t_{30} = 4\times30+2 = 122$ $t_{32} = 4\times32+2 = 130$
۳	$2-(1+\sqrt{3}) = 1-\sqrt{3} = d$ $t_5 - t_3 = 2d = 2-2\sqrt{3}$
۴	$a_n = 5^{2n}, 3\times 25^n, 5^y$ 2×5^{2n} ، 3×5^{2n} ، 2×5^{2n} $5\times5^{2n} = 5^{2n+1} = 5^y$ $y = 2n+1$ $n\times y = 3\times1 = 3$ $b_n = n, 2, y \rightarrow n, 2, 2n+1$ $n+2n+1 = 2\times2 \rightarrow 3n = 3 \rightarrow n=1 \rightarrow 2n+1 = y = 3$
۵	$2n-4, 2n-1, 4n$ -3 $4n+2n-4 = 2(2n-1)$ $8n-4 = 4n-2$ $4n = 2$ $n = \frac{1}{2}$ $-3, 0, 3, 6$

$a_n = 2n+1$, $b_n = 3n-1$ } $\to 6n-1$ $a_{20} = 2\times 20+1 = 41$ $b_{20} = 2\times 30-1 = 59$ $6n-1 \leq 41 \to 6n \leq 42$ $n \leq 7$ ۷ جمله	۶
$a_1+a_2+a_3 = 21 \to 3a_2 = 21 \to a_2 = 7$ $a_4+a_5+a_6 = 105 \to a_5 = \frac{105}{3} = 35$ [redacted] $d = 28$ $a_1 = 7-28 = -21$ $\underbrace{a_3 - a_2}_{d} + a_1 = a_1 + d = a_2 = 7$ $\frac{7}{-21} = \boxed{-\frac{1}{3}}$	۷
$a_1+a_2+a_3 = 15 \to 3a_2 = 15 \to a_2 = 5 \to a_1 = 2$ $a_4+a_5 = 25$ $(a_2)+2d+(a_2)+3d = 25$ $10+5d = 25$ $5d = 15$ $d = 3$ $t_{10} = 2+9\times 3 = \boxed{29}$	۸
$S_9 = \frac{9}{2}(2a_1+8d) = 9a_1+36d$ $S_3 = \frac{3}{2}(2a_1+2d) = 3a_1+3d \to 27a_1+27d$ $9a_1+36d = 27a_1+27d$ $18a_1 = 9d$ $a_1 = \frac{d}{2}$ $d = 2a_1$ $a_{20} = a_1+19d = a_1+38a_1 = 39a_1$ $a_7 = a_1+6d = a_1+12a_1 = 13a_1$ $\frac{39a_1}{13a_1} = \frac{39}{13} = \boxed{3}$	۹
$a_1 = 11$, $a_7 = 35 \to a_4 = \frac{35+11}{2} = 23 = b_4$ $b_1 = 38$, $b_n = 13$, $b_4 = 23$ $\frac{23-38}{3} = \frac{-15}{3} = -5 = d$ $\frac{13-38}{-5} = 5$ فاصله $\to$ [illegible] $\boxed{4}$ واسطه	۱۰