

نام و نام خانوادگی علیرضا اشرفی پاسخنامه تشریحی تکلیف شماره ۱۲... کلاس ... دهم B

الف) ۵، ۹، ۱۳، ۱۷، ...

$$\begin{array}{c} \curvearrowright \quad \curvearrowright \quad \curvearrowright \\ 4 \quad 4 \quad 4 \end{array} \Rightarrow d=4 \Rightarrow a_n = a_1 + (n-1)d = 5 + (n-1)4 = 5 + 4n - 4 = 4n + 1$$

ب) $a_{10} = 4(10) + 1 = 41$

$t_n = 4$ و $10, 14, 18, \dots \Rightarrow d = \frac{t_m - t_n}{m - n} = \frac{10 - 4}{2 - 1} = 6 \Rightarrow$ جمله عمومی $\boxed{4n + 2}$

الف) $S_n = \frac{n}{2} (a_1 + a_n) = \frac{10}{2} (4 + \underbrace{4(10) + 2}_{44}) = 240$

ب) چهار جمله اول = ۲۹، ۳۰، ۳۱، ۳۲ $\Rightarrow S_n = \frac{n}{2} (a_1 + a_n) = \frac{4}{2} (\underbrace{111 + 130}_{241}) = 494$
 $\downarrow$
 $4(29) + 2 = 118 \quad 4(32) + 2 = 130$

۱ + √۳ و ۲ و ۳ - √۳ و ...

$$\begin{array}{c} \curvearrowright \quad \curvearrowright \\ 1 - \sqrt{3} \quad 1 - \sqrt{3} \end{array} = d$$

$a_{2d} - a_{2r} = a_1 + 2kd - a_1 - 2rd = 2d \Rightarrow 2(1 - \sqrt{3}) = 2 - 2\sqrt{3}$

$\underbrace{a_1 + 2kd} \quad \underbrace{a_1 + 2rd}$

$a_n = a^{r_n}, \quad 3 \times a^{r_n}, \quad a^y \Rightarrow a^y = a \times a^{r_n} \Rightarrow a^y = a^{r_n + 1} \Rightarrow r_{n+1} = y$

$bx = u, \quad 2, \quad y \Rightarrow \frac{u + y}{2} = 2 \Rightarrow u + y = 4$

$$\left. \begin{array}{l} r_n - y = -1 \\ u + y = 4 \end{array} \right\} \xrightarrow{+}$$

$\left. \begin{array}{l} r_n = 3 \Rightarrow u = 1 \\ u + y = 4 \end{array} \right\} \Rightarrow \boxed{uy = 3}$

$$2x - 4, 2x - 1, 4x \xrightarrow[\text{مقابل}]{\text{واسطی}} \frac{2x + 4x - 4}{2} = 2x - 1 \Rightarrow 1x - 2 = 2x - 1 \Rightarrow x = 2$$

$$a = 0/2$$

$$-3, 0, 3, \dots \xrightarrow[\text{مقابل}]{\text{واسطی}} a_n = a_1 + (n-1)d = -3 + (n-1)3 = 3n - 4 \xrightarrow{n=7} \frac{a = 3(7) - 4}{3} = 7$$

②

$$a_n = 3, 5, 7, \dots \xrightarrow[\text{مقابل}]{\text{واسطی}} a_n = 2n + 1 \xrightarrow{n=7} 15 \Rightarrow a \leq 15 \quad (1)$$

$$b_n = 2, 5, 8, \dots \xrightarrow[\text{مقابل}]{\text{واسطی}} b_n = 3n - 1 \xrightarrow{n=7} 20 \Rightarrow a \leq 20 \quad (2)$$

$$1 \cap 2 = a \leq 15$$

$$4n - 1 \leq 15 \Rightarrow 4n \leq 16 \Rightarrow n \leq 4$$

$$a_1 + a_2 + a_3 = 21 \Rightarrow a_1 + a_2 = 3a_2 \Rightarrow a_2 + 2a_2 = 21 \Rightarrow a_2 = 7$$

$$a_1 + a_2 + a_4 = 10 \Rightarrow a_1 + a_4 = 2a_2 \Rightarrow a_2 + 2a_2 = 10 \Rightarrow a_2 = 5$$

$$a_1 + a_2 + a_3 = 21 \xrightarrow[a_2=5]{a_2=7} a_1 + 7 = 21 \Rightarrow a_1 = 14 \Rightarrow \frac{a_2 - a_1 + a_1}{a_1} = \frac{5 - 14 + 14}{14} = \frac{5}{14}$$

$$a_1 + a_2 + a_3 = 10 \Rightarrow a_2 + 2a_2 = 10 \Rightarrow a_2 = 5$$

$$a_2 + a_4 = 2d \Rightarrow 2a_2 + 2d = 2d \xrightarrow{a_2=5} 10 + 2d = 10 \Rightarrow d = 0$$

$$a_1 + a_1 + d + a_1 + rd = 10 \xrightarrow{d=0} 3a_1 = 10 \Rightarrow a_1 = 10/3 \Rightarrow a_1 + (n-1)d = 10/3$$

$$S_n = \frac{n}{2} (a_1 + a_n) = \frac{n}{2} (a_1 + (n-1)d) \quad \frac{a_{10}}{a_1} = \frac{a_1 + 9d}{a_1 + d} = \frac{a_1 + 9d}{a_1 + d} = 3$$

$$\frac{S_9}{S_7} = \frac{\frac{9}{2} (a_1 + 8d)}{\frac{7}{2} (a_1 + 6d)} = 9 \Rightarrow 4a_1 + 8d = 14a_1 + 14d \Rightarrow 4d = 10a_1 \Rightarrow d = 2.5a_1$$

$$a_1 = 11$$

$$a_v = 35 \Rightarrow a_v = a_1 + 4d = 35 \xRightarrow{a_1 = 11} 11 + 4d = 35 \Rightarrow \boxed{d = 6} \Rightarrow a_n = a_1 + (n-1)d$$

$$b_1 = 38$$

$$b_5 = 23 = b_1 + 4d \Rightarrow 38 + 4d = 23 \Rightarrow 4d = -15$$

$$\Rightarrow \boxed{d = -4} \xRightarrow{\text{جواب}} b_n = -4n + 43$$

$$11 - (n-1)6 = \boxed{4n + 7}$$

$$\Rightarrow \boxed{a_5 = 23}$$

$$b_n = -4n + 43 \Rightarrow -4n + 43 = 13 \Rightarrow -4n = -30$$

$$\Rightarrow \boxed{n = 4} \xRightarrow{\text{بين او 6}} \text{جواب}$$