

$$a_n = f n + 1$$

$$a_{10} = f(10) + 1 = f1$$

$$\overbrace{2}^{+f} \overbrace{9}^{+f} \overbrace{12}^{+f} \overbrace{17}$$

(1)

$$\underbrace{4}_{+f} \underbrace{10}_{+f} \underbrace{14}_{+f} \underbrace{18}$$

$$\frac{n}{2} (2a_1 + (n-1)d)$$

(2)

$$\frac{d}{f} ((2 \times 4) + 9 \times f) = 240$$

$$a_{29} = f(29) + 1 = 118$$

$$a_{32} = f(32) + 1 = 130$$

$$S_n = \frac{n}{2} (a_1 + a_n)$$

$$S_6 = \frac{6}{2} (118 + 130) = 194$$

$$\underbrace{1+\sqrt{3}}_{1-\sqrt{3}}, 2, 3-\sqrt{3}$$

$$a_{25} - a_{23} = 2d$$

(3)

$$2(1-\sqrt{3}) \rightarrow 2-2\sqrt{3}$$

$$a_n = \frac{\omega^y + \omega^{2n}}{2} = \mu \times \omega^{2n} \rightarrow \omega^y + \omega^{2n} = 4 \times \omega^{2n} \rightarrow \omega^y = 4 \times \omega^{2n} - \omega^{2n} = 3 \times \omega^{2n}$$

$$\left. \begin{array}{l} \omega^y = (\omega)^3 \omega^{2n} \\ \omega^y = \omega^{2n+1} \end{array} \right\} \rightarrow y = 2n+1$$

$$b_n = \frac{n+y}{2} = 2$$

$$n+y = 4$$

$$y = 4 - n$$

$$\left\{ \begin{array}{l} y = 2n+1 \\ y = 4-n \end{array} \right. \rightarrow 2n+1 = 4-n$$

$$3n = 3 \rightarrow n = 1$$

$$1+y = 4 \rightarrow y = 3$$

$$ny = 3$$

$$\frac{2n - f + 2n}{2} = 2n - 1$$

$$2n - f + 2n = 4n - 2$$

(4)

$$4n - f = 4n - 2$$

$$f = 2 \rightarrow n = \frac{1}{2}$$

$$\rightarrow \underbrace{2n-f}_{-2}, \underbrace{2n-1}_0, \underbrace{2n}_2$$

$$a_n = 2n - 4$$

$$a_8 = 2 \times 8 - 4 = 12$$

$$a_n = \overbrace{2, 2, \dots}^{+2, +2} \rightarrow 2n+1 \quad \rightarrow \underbrace{2, 11, 17}_{+2, +2} \rightarrow 2n-1$$

$$b_n = \underbrace{2, 2, \dots}_{+2, +2} \rightarrow 2n-1$$

$$a_n \text{ جبرسٽر } \rightarrow 2 \times 2 + 1 = 5 \quad b_n \text{ جبرسٽر } \rightarrow 2 \times 3 - 1 = 5 \quad \begin{matrix} 2n-1 \leq 5 \\ 2n \leq 6 \\ n \leq 3 \end{matrix}$$

$$2, 11, 17, 23, 29, 35, 41$$

$$\begin{cases} a_1 + a_2 + a_3 = 21 \rightarrow 3a_1 + 3d = 21 \\ a_1 + a_3 + a_5 = 10 \rightarrow 3a_1 + 4d = 10 \end{cases} \rightarrow \begin{matrix} 3d = 18 \rightarrow d = 6 \\ a_1 = -21 \end{matrix}$$

$$\underbrace{a_3 - a_2 + a_1}_d \rightarrow \cancel{21} - 21 = 0 \quad \frac{0}{-21} = \frac{-1}{3} \text{ جواب}$$

$$\begin{cases} a_1 + a_2 + a_3 = 10 \rightarrow (3a_1 + 3d = 10) \times 2 \\ a_4 + a_5 = 20 \rightarrow (2a_1 + 7d = 20) \times 3 \end{cases} \rightarrow \begin{matrix} 6a_1 + 6d = 20 \\ 6a_1 + 21d = 60 \end{matrix} \rightarrow \begin{matrix} 15d = 40 \rightarrow d = \frac{8}{3} \\ a_1 = \frac{10}{3} \end{matrix}$$

$$10d = 40 \rightarrow d = 4 \quad a_n = 2n-1 \quad a_{10} = 2 \times 10 - 1 = 19$$

$$a_1 = 2$$

$$S_9 = 9S_3 \quad \frac{9}{3} (a_1 + a_9) = 9 \times \left(\frac{3}{3} (a_1 + a_3) \right)$$

$$3(a_1 + 12d) = 9(a_1 + 4d) \rightarrow 3a_1 + 36d = 9a_1 + 36d \rightarrow 12a_1 = 36d \rightarrow 2a_1 = 6d \rightarrow a_1 = 3d$$

$$3a_1 + 36d = 9a_1 + 36d \rightarrow 12a_1 = 36d \rightarrow 2a_1 = 6d \rightarrow a_1 = 3d$$

$$\frac{a_3}{a_5} = \frac{a_1 + 4d}{a_1 + 6d} = \frac{3a_1}{5a_1} = \frac{3}{5}$$

$$\text{دنيا لاء } a_5 - a_1 = 4d = 12 \rightarrow d = 3 \quad a_n = 3n+1 \quad a_5 = 16+1=17 \quad (10)$$

$$\text{دنيا لاء } = \frac{17-3}{n+1} = d = -4 \quad \begin{matrix} 3a_1 + 3d = 21 \\ 3a_1 + 3d = 21 \\ 3d = -12 \\ (d = -4) \end{matrix}$$

$$-4n - 4 = -20$$