

الف) $a_n = r(n-1) + 1 = \boxed{rn+1}$

ب) $a_1 = r \times 1 + 1 = \boxed{r+1}$

الف) $a_n = rn + r \rightarrow a_1 = r$
 $\rightarrow a_1 = r$ $S_1 = \frac{1}{r} \left(\cancel{r} + r^2 \right) = \boxed{r^2}$

ب) a_{19}, a_r, a_n, a_{rr}

$a_{19} = 118$ $S = \frac{r}{r} \left(\cancel{1r^0} + 118 \right) = \boxed{499}$
 $a_{rr} = 1r^0$

$d = r - (1 + \sqrt{r}) = 1 - \sqrt{r}$

$a_{10} - a_{rr} = a_1 + r^2 d - (a_1 + r^2 d) = r^2 d$

$r^2 d = r(1 - \sqrt{r}) = \boxed{r - r\sqrt{r}}$

$b_n = x, r, y \Rightarrow r - x = y - r \Rightarrow y = r - x$

$a_n = \omega^{rx}, r \times \omega^{rx}, \omega^{y} \xrightarrow{y=r-x}$

$y = r - x = r \rightarrow xy = r \times 1 = \boxed{r}$

$r \times \omega^{rx} - \omega^{rx} = \omega^{r-x} - r \times \omega^{rx}$

$\omega \times \omega^{rx} = \omega^{r-x} \Rightarrow \omega^{rx+1} = \omega^{r-x} \Rightarrow rx+1 = r-x, x=1$

$d = r^2 x - (r^2 x - r) = r$

$qx - (qx - 1) = r$

$rx+1 = r$

$x = \frac{1}{r}$

$a_r = qx = r \Rightarrow a_r = a_{r+d} = r + r = \boxed{2r}$

$$a_n = r_{n+1} \quad a_{r_1} = r_1 r_1 + 1 = r_1 \rightarrow \text{مستطرد}$$

$$b_n = r_n - 1 \quad b_{r_1} = r_1 r_1 - 1 = r_1^2 - 1$$

$$\omega, 11, 14, \dots \leftarrow \text{مستطرد}$$

$$c_n = 4n - 1 \quad 4n - 1 \leq r_1 \quad n \leq V \rightarrow \text{مستطرد}$$

$$a_1 + (a_1 + d) + (a_1 + r_1 d) = r_1 a_1 + r_1 d = r_1 \Rightarrow a_1 + d = \boxed{V = a_{r_1}}$$

$$a_1 + (a_1 + r_1 d) + (a_1 + r_1 d) = r_1 a_1 + 4d = 1 \cdot \omega \Rightarrow a_1 + r_1 d = \boxed{r_1 \omega = a_{r_1}}$$

$$a_1 = r_1 - a_{r_1} - a_{r_1} = r_1 - r_1 r_1 = \boxed{-r_1}$$

$$a_{r_1} - a_{r_1} + a_1 = r_1 \omega - V - r_1 = \boxed{V} \quad \frac{V}{a_1} = \frac{V}{-r_1} = \boxed{-\frac{1}{r_1}}$$

$$a_{r_1} = \frac{1 \cdot \omega}{r_1} = \omega = a_1 + d$$

$$a_{r_1} + a_{r_1} = r_1 a_1 + V d = r_1 \omega$$

$$a_{r_1} = 4d + a_1 = r_1 V + r_1 = \boxed{r_1 V}$$

$$\begin{cases} a_1 + d = \omega \\ r_1 a_1 + V d = r_1 \omega \end{cases} \quad \begin{cases} r_1 a_1 + r_1 d = 1 \cdot \omega \\ r_1 a_1 + V d = r_1 \omega \end{cases} \quad \begin{matrix} a_1 = r_1 \\ d = r_1 \end{matrix}$$

$$\frac{a_{r_1}}{r_1} (a_1 + a_{r_1}) = \frac{r_1}{r_1} (a_1 + a_{r_1}) \quad \left\{ \begin{aligned} \frac{a_{r_1}}{a_1} &= \frac{r_1 d + a_1}{4d + a_1} = 1 + \frac{r_1 d}{4d + a_1} = \frac{r_1 (r_1 a_1)}{4(r_1 a_1) + a_1} + 1 \\ \frac{r_1 a_1}{1 r_1 a_1} + 1 &= \boxed{r_1} \end{aligned} \right. \leftarrow \text{مستطرد}$$

$$\frac{1}{r_1} (r_1 a_1 + r_1 d) = \frac{r_1}{r_1} (r_1 a_1 + r_1 d)$$

$$r_1 a_1 + r_1 d = 4 a_1 + 4 d$$

$$r_1 d = r_1 a_1 \Rightarrow \boxed{d = r_1 a_1}$$

$$a_V - a_1 = 4d = r_1 \omega - 11 = r_1 r_1 \Rightarrow d = r_1 \quad (a_{r_1} = r_1 d + a_1 = 11 + 11 = 22)$$

$$\left. \begin{matrix} b_{r_1} = r_1 r_1 \\ b_1 = r_1 \omega \end{matrix} \right\} \quad b_{r_1} - b_1 = r_1 d = r_1 r_1 - r_1 \omega = -1 \cdot \omega = \boxed{d = -\omega}$$

$$d = \frac{r_1 - r_1 \omega}{n+1} \Rightarrow -\omega = \frac{-r_1 \omega}{n+1} \Rightarrow -\omega n - \omega = -r_1 \omega \Rightarrow n = r_1$$