

$$t_n = 0, 9, 1, 10, 11, \dots \quad d = 1 \Rightarrow t_n = t_{n+1}, \quad t_{10} = 2 \times 10 + 1 = 21$$

$$\left. \begin{array}{l} t_n = 0, 9, 1, 10, 11 \quad d = 1 \Rightarrow t_n = t_{n+1} \\ t_1 = 0, \quad t_{10} = 2 \times 10 + 1 = 21 \end{array} \right\} S_{10} = \frac{10}{1} (0 + 21) = 210$$

(الف-۲)

$$\left. \begin{array}{l} \text{مجموعه } t = t_{n1}, t_{n2}, t_{n3}, t_{n4} \\ t_{n1} = 2 \times 11 + 1 = 23, \quad t_{n4} = 2 \times 13 + 1 = 27 \end{array} \right\} S = \frac{4}{1} (11 + 13) = 96$$

(ب)

$$1 + \sqrt{r}, r, r - \sqrt{r} \quad \left\{ \begin{array}{l} a_{r0} - a_{rr} = 1 + r^2 d - (a_1 + r^2 d) = r d = r - r\sqrt{r} \\ d = a_r - a_1 = r - (1 + \sqrt{r}) \Rightarrow d = 1 - \sqrt{r} \end{array} \right.$$

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$$a_n = \omega^x, r^x, \omega^y, \omega^z$$

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$$d = r^x - \omega^x = \omega^x (r - 1) = \omega^x \times r \rightarrow d = a_r - a_1 = a_r - a_1$$

$$= \omega^y - r^x = \omega^x (\omega^{y-x} - r) = \omega^x \times r \Rightarrow \omega^{y-x} - r = r \Rightarrow \omega^{y-x} = \omega \Rightarrow y - x = 1$$

$$b_n = x, r, y \Rightarrow d = r - x = y - r \xrightarrow{r \times 1} \Rightarrow r - x = r(x - 1) \Rightarrow x = 1, \quad y = r \Rightarrow \underline{xy = r}$$

$$rx - f, rx + 1, yx \Rightarrow d = rx - f - (rx - 1) \Rightarrow d = 1 = yx - f(x - 1) \Rightarrow f(x - 1) = 1$$

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$$\Rightarrow f(x) = \frac{1}{x-1} \quad x = \frac{1}{f} \quad \Rightarrow a_n = -1, 0, 1 \Rightarrow a_n = 1n - 1 \Rightarrow a_f = f \times 1 - 1 = 0$$

$$a_n = 1, 0, 1, \dots \Rightarrow a_n = 1n + 1 \Rightarrow a_{r0} = 1 \times 10 + 1 = 11$$

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$$b_n = 1, 0, 1, \dots \Rightarrow a_n = 1n - 1 \Rightarrow b_{r0} = 1 \times 10 - 1 = 9$$

$$\sum_{k=1}^n a_k = 1n - 1 \rightarrow 1n - 1 \leq 1 \Rightarrow 1n \leq 2 \Rightarrow n \leq 2$$

$$\downarrow$$

$$(0, 1, 1, 1, 2, \dots)$$

$$a_1 + a_r + a_p = r_1 \Rightarrow a_r - d + a_r + a_r + d = r_1 = r_1 \Rightarrow a_r = r_1 \Rightarrow a_r = v$$

-v

$$a_1 + a_p + a_w = l_0 \Rightarrow a_r - r_d + a_r + a_r + d = l_0 \Rightarrow a_r = r_d$$

$$a_1 + a_r + a_p = r_1 \Rightarrow a_1 + r_0 + v = r_1 \Rightarrow a_1 = -r_1$$

$$\frac{a_r - a_r + a_1}{a_1} = \frac{r_0 - v - r_1}{-r_1} = \frac{v}{-r_1} = \boxed{-\frac{1}{r_1}}$$

$$a_1 + a_r + a_p = l_0 \Rightarrow a_r - d + a_r + a_r + d = l_0 \Rightarrow a_r = 0$$

-1

$$a_f + a_w = r_0 \Rightarrow a_r + r_d + a_r + r_d = r_0 + d = l_0 + d = r_0 \Rightarrow d = l_0 \Rightarrow d = r_0$$

$$r_1, w, l_1, \dots \Rightarrow a_n = r_{n-1} \Rightarrow a_n (r_x - 1) = r_1$$

$$a_1 + a_r + a_p = a_r - d + a_r + a_r + d = r_0$$

$$a_w = a_r + r_d = r_0 \Rightarrow a_r = r_0$$

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$$a_1 + a_r + a_p + \dots + a_q = q a_w \quad S_q = q S_p \Rightarrow q a_w = q \times r_0 \Rightarrow a_w = r_0$$

$$\frac{a_r}{a_v} = \frac{a_r + l_1 d}{a_r + w d} = \frac{a_r + l_1 (\frac{r}{p} a_r)}{a_r + w (\frac{r}{p} a_r)} = \frac{a_r + l_1 r}{a_r + \frac{l_0}{p} r} = \frac{l_1 r}{\frac{l_0}{p} r} = \boxed{\frac{p l_1}{l_0}}$$

$$t_1 = l_1 \quad t_v = r_0 \Rightarrow d = \frac{r_0 - l_1}{y} = \frac{r_0}{y} = r \Rightarrow t_n = f_n + v$$

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$$t_f = (f \times f) + v = r r, \quad a_1 = r_1, a_f = r r \Rightarrow d = \frac{r r - r_1}{r} = -w$$

$$-w = \frac{l_1 r - r_1}{n-1} \Rightarrow -w n + d = r_0 \Rightarrow n = y \Rightarrow a_y = l_1, \quad a_1, a_r, a_p, a_w \text{ levels}$$

$$r r, l_1, r r, l_1$$