

$$t_n = 4, 9, 16, 25, \dots \quad t_n = \varepsilon n + 1$$

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$$t_{10} = \varepsilon \times 10 + 1 = \boxed{41}$$

ب

$$t_n = 6, 10, 14, 18, \dots \quad S_n = \frac{n}{2} (a_1 + a_n) \Rightarrow \frac{10}{2} (6 + 42) = \boxed{240}$$

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$$t_n = \varepsilon n + 2 \Rightarrow 2 \times 10 + 2 = 22$$

ب) منظر این است که باید مجموع $t_{19}, t_{20}, t_{21}, t_{22}, t_{23}$ را بیست آورد

$$t_{19} = 2 \times 19 + 2 = 40, \quad t_{23} = 2 \times 23 + 2 = 48$$

$$S_5 = \frac{5}{2} (40 + 48) = 96$$

$$1 + \sqrt{3}, 2, 3 - \sqrt{3}, \dots$$

$$t_{12}, t_{13}, t_{14}$$

$$t_{14} - t_{12} = 2d$$

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

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$$a_n = 1, 2, 3, 4, \dots \Rightarrow 1, 2, 3, 4, \dots$$

$$b_n = 1, 2, 3, 4, \dots$$

$$a_n = 1, 2, 3, 4, \dots \Rightarrow a_n = n \Rightarrow \boxed{2n+1 = 7}$$

$$\frac{x+y}{2} = 2 \Rightarrow \boxed{x+y = 4}$$

$$\begin{cases} x+y = 4 \\ 2x+y = -1 \end{cases}$$

$$x = 3 \Rightarrow \begin{cases} x = 1 \\ y = 3 \end{cases}$$

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$$2x-2, 2x-1, 2x, \dots$$

$$2x-1+2 = 2x \Rightarrow 2 = 2x \Rightarrow \boxed{x = 1}$$

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$$-2, 0, 2, 4, \dots \quad t_4 = 2 \times 4 - 2 = \boxed{6}$$

$$t_n = 2n - 2$$

$a_n = r_n \oplus \sqrt{r_n} \oplus 11$ $a_n = r_n + 1 \rightarrow r_n \oplus 1 = 15$
 $b_n = r_n \oplus \sqrt{r_n} \oplus 11$ $a_n = r_n - 1 \rightarrow r_n \oplus 1 = 19$
 $d = 11 \Rightarrow 9$ $t_n = 9, 11, \dots, t_n = 9n - 1$
 $9n - 1 \leq 15 \rightarrow 9n \leq 16 \rightarrow n \leq 1$
 $9n - 1 \leq 19 \rightarrow 9n \leq 20 \rightarrow n \leq 2$

$a_1 + a_r + a_p = 11$ $a_1 + a_r, a_p = 10$
 $a_r - 1, a_p, a_p + 1$
 $\Rightarrow 9 = r a_r = 11$ $\Rightarrow 9 = r a_p = 10$
 $a_r = 1$ $a_p = 10$
 $d = \frac{r d - 1}{r - 1} = \frac{11}{1} = 11$ $a_1 = a_r - d = 1 - 11 = -10 \rightarrow a_p - a_r + a_1 = 10 - 1 - 11 = -2$

$a_1 + a_r + a_p = 10$ $a_r + a_p = 10$
 $r a_1 + r d = 10$ $r a_1 + r d = 10$
 $\Rightarrow a_1 + d = 10 \Rightarrow r a_1 + r d = 10$
 $a_1 = a_r - d \Rightarrow r a_1 + r d = 10$

$9 = 9r \Rightarrow \frac{9}{r} (a_1 + a_p) = 9 \times \frac{r}{r} \times (a_1 + a_p) \Rightarrow \frac{9}{r} a_1 + \frac{9}{r} a_p = \frac{r}{r} a_1 + \frac{r}{r} a_p$
 $\Rightarrow \frac{9}{r} a_p = \frac{r}{r} a_p = a_p \Rightarrow \frac{1}{r} a_p = \frac{r}{r} a_p = a_1 \Rightarrow \frac{1}{r} (a_1 + r d) - \frac{r}{r} (a_1 + r d) = a_1$
 $\frac{1}{r} a_1 + r d - \frac{r}{r} a_1 - r d = a_1 \rightarrow r a_1 = d \Rightarrow a_1 = \frac{d}{r} \Rightarrow \frac{a_p}{a_v} = \frac{a_1 + r d}{a_1 + r d} = \frac{r d}{r d} = 1$

$a_1 = 11$ $a_v = 10$ $r d = 11 \Rightarrow r = 11 \Rightarrow a_r = a_1 + r d = 11 + 11 = 22$
 $b_1 = 11$ $b_n = 13$
 $b_f = a_f = 11$ $d = \frac{r n - 1}{r} = 10$ $d = \frac{b_n - b_1}{n - 1} \Rightarrow -d = \frac{13 - 11}{n - 1} \Rightarrow -d = \frac{2}{n - 1}$
 $\Rightarrow n - 1 = 2$ $n = 3$