

$$t_n = 9, 9, 12, 17, \dots$$

$\begin{matrix} \nearrow & \nearrow & \nearrow \\ +2 & +2 & +2 \end{matrix}$

$$t_n = t_{n+1} \quad \text{الف}$$

$$t_{10} = 2 \times 10 + 1 = 21 \quad \text{ب}$$

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$$t_n = 4, 10, 14, 18, \dots$$

$\begin{matrix} \nearrow & \nearrow & \nearrow \\ +2 & +2 & +2 \end{matrix}$

$$\frac{10}{2} (2 + 4) = 30 \quad \text{الف}$$

$$t_{10} = 24 \quad \text{ب}$$

$$a_{10} + a_{11} + a_{12} + a_{13} = 2(a_1 + a_{14}) = 2(1 + 29) = 60$$

$$S_{12} = 12(9 + 4) = 144$$

$$S_{10} = 10(14 + 4) = 180$$

$$\Rightarrow t_1 + t_{14} + t_{12} + t_{13} = 14 \times 2 - 1 = 27$$

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

$\begin{matrix} \nearrow & \nearrow \\ +\sqrt{2} & +\sqrt{2} \end{matrix}$

$$t_n = (1 - \sqrt{2})n + 1 + \sqrt{2}$$

$$t_{10} = 10 - 10\sqrt{2} + 1 + \sqrt{2} = 11 - 9\sqrt{2}$$

$$t_{10} = 10 - 10\sqrt{2} + 1 + \sqrt{2} = 11 - 9\sqrt{2}$$

$$\Rightarrow t_{10} - t_{10} = 10 - 10\sqrt{2} - 10 + 10\sqrt{2} = 0$$

$$a_n = 2^n, \quad 2 \times 2^n, \quad 2^2$$

$$2^n + 2^2 = 2^n \times 4 \Rightarrow 2^2 = 2^{n+1} \Rightarrow 2 = n+1 \Rightarrow n=1$$

$$b_n = n, \quad 2, \quad 2 \Rightarrow n+2=2$$

$$\Rightarrow \begin{cases} y = n+1 \\ n+y = 2 \end{cases} \Rightarrow \begin{cases} n=1 \\ y=2 \end{cases}$$

$$\Rightarrow xy = 2$$

$$2n-2, \quad 2n-1, \quad 2n, \dots$$

$$\begin{matrix} \nearrow & \nearrow \\ +2 & +2 \end{matrix}$$

$$2n-2 = 2n-1 \Rightarrow n = \frac{1}{2}$$

$$\Rightarrow t_n = 2n-4 \Rightarrow t_2 = 14-4=10$$

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1, 100

$b_n = 1, 2, 3, \dots$ $1, 2, 3, \dots, 11, 12, 13, \dots$ $b_n = 2, 3, \dots$
 $a_n = 1, 2, 3, \dots$ $1, 2, 3, \dots, 11, 12, 13, \dots$ $a_n = 1$
 $t_n = 1, 2, 3, \dots \Rightarrow t_n = 4n - 1$
 $\Rightarrow 4n - 1 \leq 13 \quad 4n \leq 14 \Rightarrow n \leq 3.5 \Rightarrow n \leq 3$

مستند 12 V

$a_1 + a_2 + a_3 = a_1 + a_1 + d + a_1 + d = 3a_1 + 2d = 11 \Rightarrow 3a_1 + 2d = 11$
 $a_1 + a_2 + a_3 = a_1 + a_1 + d + a_1 + d = 3a_1 + 2d = 11$
 $a_1 + d = 4$
 $a_1 + d = 4$
 $a_1 = -1$
 $d = 5$
 $a_2 - a_1 + a_1 = a_1 + d = 4$
 $\frac{4}{-1} = -4$

$a, d, x, a+d, x+d, x+d \Rightarrow x = 1 \Rightarrow a = d$
 $a + d + a + d = 4a = 4 \Rightarrow a = 1$
 $t_n = 4n - 1 \Rightarrow t_{10} = 39$

$\frac{a}{x} (x a_1 + 10d) = \frac{10}{x} (x a_1 + 10d) x$
 $a (a_1 + 10d) = 10 (a_1 + d) \Rightarrow a_1 + 10d = 10a_1 + 10d \Rightarrow 9a_1 = 0$
 $\frac{a_1}{a} = \frac{a_1 + 10d}{a_1 + d} \Rightarrow \frac{a_1 + 10a_1}{a_1 + 10a_1} = \frac{10a_1}{10a_1} = 1$

$d = \frac{10a - 11}{9} = \frac{10a - 11}{9} \Rightarrow t_n = 9n + 11 \Rightarrow t_{10} = 101$
 $1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100$
 $\Rightarrow d = \frac{100 - 11}{9} = 10$