

$$t_n = 1, 9, 17, 25, \dots$$

$$a_n a_{n+1} d \Rightarrow \boxed{17}$$

(الف) جمله ی عمومی :

$$a_0 = 1 \times 10 + 1 = \boxed{11}$$

(ب) جمله ی دوم :

$$t_n = 1, 9, 17, 25, \dots$$

$$S_n = \frac{n}{2} (a_1 + (n-1)d) = \frac{10}{2} (1 + 9) = \boxed{50}$$

(الف) مجموع جمله های اول و دهم :

$$a_n = a + nd = 17$$

$$a_1 = 1$$

$$a_2 = 9$$

$$a_3 = 17$$

$$1 + 9 + 17 = \boxed{27}$$

(ب) مجموع جمله های سوم و دهم :

$$a_n = 1 + \sqrt{2}, 2, 3 - \sqrt{2}$$

$$a_{17} = a_1 + 16d \Rightarrow 1 + \sqrt{2} + 16(1 - \sqrt{2}) = 17 - 15\sqrt{2}$$

$$a_{18} = a_1 + 17d \Rightarrow 1 + \sqrt{2} + 17(1 - \sqrt{2}) = 18 - 16\sqrt{2}$$

$$\Rightarrow 17 - 15\sqrt{2} + 18 - 16\sqrt{2} = 35 - 31\sqrt{2}$$

$$a_n = a^x, r^x, a^y \Rightarrow a^x \cdot a^y = a^{x+y} \Rightarrow a^x (r^x - 1) = a^y - a^x \Rightarrow a^x r^x = a^y \Rightarrow a^x = a^y \Rightarrow x = y$$

$$b_n = x, y \Rightarrow$$

$$x+1 = y-x$$

$$x = y-1$$

$$x = y \Rightarrow y = 1$$

$$y = x+1 = 2$$

$$a_n = x-1, x-2, x-3, \dots \Rightarrow a_n = -\frac{n(n-1)}{2} \Rightarrow a_n = a_1(n-1)d = 1n-1$$

$$b = \frac{a+c}{2} \Rightarrow \frac{x-1}{2} = \frac{x-2+x-3}{2} \Rightarrow x-1 = 1 \Rightarrow x = 2$$

$$\frac{1 \times 1}{1} = \boxed{1}$$

مجموع جمله های اول و دهم

$$a_n = 1, 2, 3, \dots \Rightarrow a_n = n+1$$

$$1+1=2$$

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

$$b_n = 1, 2, 3, \dots \Rightarrow a_n = n-1$$

$$-1 = -1$$

$$n=1$$

مجموع جمله های اول و دهم

$$a_1 + a_2 + a_3 = 11$$

$$a + a + d + a + 2d = 11$$

$$a_2 = a + d = -9 + 10 = 1$$

$$a_1 + a_2 + a_3 = 10d$$

$$a + a + d + a + 2d = 10d$$

$$a_3 = a + 2d = -9 + 20 = 11$$

$$a_2 - a_1 + a_3 \rightarrow a_2$$

$$x-1 \mid \frac{11}{2} + \frac{11}{2} = 11 \Rightarrow 11a - 11 - 11 = -9 \Rightarrow a = -9$$

$$11a + 9d = 10d$$

$$11d = 11$$

$$d = 1$$

$$a_2 - a_1 + a_3 = -9 - (-11) + 11 = 11$$

$$a_1 + a_r + a_p = 1d \Rightarrow a + a + d + a + rd = 1d$$

$$a_r + a_d = 2d \Rightarrow a + rd + a + rd = 2d$$

$$\begin{cases} 3a + rd = 1d \\ 2a + 2rd = 2d \end{cases} \Rightarrow \begin{cases} -3a - rd = -1d \Rightarrow 3a = 4 \Rightarrow a = 1 \\ 2a + rd = 1d \end{cases}$$

$$rd = 1d$$

$$a_n = a_1 + (n-1)d \Rightarrow r_{n-1}$$

$$1 \times 10 - 1 = 9 \Rightarrow r_{10} = 9$$

$$S_9 = 9S_r \quad S_n = \frac{n}{2} (2a_1 + (n-1)d) \Rightarrow \frac{9}{2} (2a + 1d) = 9 \times \frac{r}{2} (2a + 2d)$$

$$\frac{a_r}{a_r} \text{ دقة}$$

$$\frac{9}{2} (2a + 1d) = \frac{9r}{2} (2a + 2d)$$

$$a_r = a + 19d = a_1 + 19 \times \frac{1}{2}a = 19a$$

$$2a + 1d = 2(2a + 2d)$$

$$a_r = a + 9d = a_1 + \frac{1}{2} \times 2a = 1a$$

$$2a + 1d = 4a + 9d$$

$$2a + 1d - 4a - 9d = 0 \Rightarrow -2a - 8d = 0 \Rightarrow 2(-a - 4d) = 0$$

$$d = -\frac{1}{4}a$$

$$a_1 = 11 \quad a_r = 2d$$

$$a + 9d = 2d \Rightarrow 9d = 2d$$

$$d = 1$$

$$a_r = a + 19d = 11 + 19 = 30$$

$$b + 19d = 11 + 19 \left(\frac{-11}{k+1} \right) = 19 \Rightarrow \frac{-11}{k+1} = -1$$

$$-11 = -1(k+1) - 11$$

$$-9 = -1(k+1) \Rightarrow k = 8$$

$$d = \frac{b-a}{k+1} \Rightarrow \frac{11-21}{k+1} = \frac{-10}{k+1} = d$$