

حل المسألة

$$2d=21 \rightarrow d=7, a=\varepsilon_0 \Rightarrow \varepsilon_0 + 7n - 7 = 201 \Rightarrow n=28 \quad (1)$$

$$\text{مثال: } 101 \text{ بين } 997 \rightarrow 101 \leq 7n+7 \leq 997 \Rightarrow 91 \leq 7n \leq 990 \Rightarrow 13 \leq n \leq 141 \Rightarrow 141-13+1=129 \quad (2)$$

$$2a_n + 4d = -4n + 14 \rightarrow a_n + 2d = -2n + 7 \quad \begin{cases} a_1 + a_3 + 2d = -14 + 14 = 0 \\ a_{17} + a_{19} + 2d = -34 + 14 = -20 \end{cases} \rightarrow a_1 + a_{19} = -20 \quad (3)$$

$$1^2 a_0 - 2^2 a_1 + 3^2 a_2 - \dots + n^2 a_n = 1^{n+1} - 2^{n+1} + 3^{n+1} - \dots + n^{n+1} \rightarrow 1^2 = \frac{1+2}{2} + 1 \Rightarrow a_0 = 2 \quad (4)$$

$$1^2 - 2^2 + 3^2 - \dots + n^2 - 1 = 28$$

$$2d=d \Rightarrow d=210 \quad (5)$$

$$2a + 20d = 210 \Rightarrow a = -1470 \rightarrow b_{21} = a + 20d = 210$$

$$2(\delta a + 10d) = \delta a + 20d \Rightarrow 10a = 20d \rightarrow d = 2a \Rightarrow \frac{a+2a}{a} = 2 \quad (6)$$

$$b_n = b_n - 2d + 10 \rightarrow d=10 \Rightarrow \frac{(b_9 - b_0)(b_9 + b_0)}{2} = \frac{2a + 18d}{2} = 2 \quad (7)$$

$$d = \frac{18\sqrt{2}}{18+1} = \sqrt{2} \quad (8)$$

$$d = \frac{20}{2n-1} \quad a_{n+1} = 11 \Rightarrow 2+n d = 11 \quad (9)$$

$$\Rightarrow n \times \frac{10}{2n-1} = 9 \rightarrow 10n = 18n - 9 \Rightarrow n = 9$$

$$2a + (2n+4)d = 2a + 14d \Rightarrow 2n+4 = 14 \rightarrow n=5 \quad (10)$$

$$a + 1d = 2a + 9d \Rightarrow 2a + 9d = 0 \rightarrow a + d = 0 \Rightarrow b_2 = a + d = 0$$