

$$t_n = n^2 + \frac{n(n-1)}{2} \rightarrow t_{10} = 100 + 45 = 145 \quad (1)$$

$$t_n = \frac{n(n-1)}{2} \rightarrow 110 = n(n-1) \Rightarrow n = 11 \quad (2)$$

$$\text{مثال: } t_n = 5n + 1 \rightarrow t_{11} = 56 \quad (3)$$

$$\text{مثال: } t_n = 5n + 1 + 5n - 5 = 10n - 4 \rightarrow t_{11} = 106$$

$$\text{مثال: } n=2 \rightarrow t_2 = \frac{1}{2} \Rightarrow \frac{1}{2} - (-1) = \frac{3}{2}$$

$$\text{مثال: } n=1 \rightarrow t_1 = -1$$

$$b_n = -27 - 21 = -48 \Rightarrow -48 = -dn + 27 \rightarrow dn = 75 \rightarrow n = 15 \rightarrow k = 15 \quad (4)$$

$$d = \frac{t_n - t_m}{n - m} = \frac{14}{5} = 2.8 \Rightarrow a + 2.8d - a = 2.8d \rightarrow 2.8d = 40 \quad (5)$$

$$d = \frac{t_n - t_m}{n - m} = 2 \Rightarrow a_n = 1 \Rightarrow a_n = 2n - 1 \quad (6)$$

$$b_n: 11 \Rightarrow b_n = 11n - 8$$

$$t_8 = \frac{32}{18} \rightarrow t_8 < \frac{5}{2} \checkmark \quad t_9 = \frac{36}{14} \rightarrow t_9 > \frac{5}{2} \times \quad (7)$$

$$\Rightarrow n \leq 8 \Rightarrow \text{الحدود}$$

$$4, 9, 9, 4, 0 \Rightarrow t_n = \frac{2}{3}n^2 + \frac{10}{3}n \Rightarrow A + dB = \frac{-9}{3} + \frac{10}{3} = 1 \quad (8)$$

$$1, 4, 9, -5, 0 \rightarrow t_n = n^2 - n - 4 \quad a_n: d = \frac{10}{3} = 2 \Rightarrow a_n = 2n + 1 \quad (9)$$

$$\Rightarrow n^2 - n - 4 = 2n + 1 \rightarrow n^2 - 3n - 5 = 0 \rightarrow (n+3)(n-9) \rightarrow n = 9 \quad (10)$$