

$$الف) t_n = 5n + 1 \checkmark$$

$$ب) t_{10} = 51 \checkmark$$

(1) (2)

$$الف) S_{10} = 5(19 + 9 \times 5) = 490 \checkmark$$

(2) (3)

$$ب) t_{29} + t_{28} + t_{27} + t_{26} = 5a + 111d = 55 + 111 \times 5 = 594 \checkmark$$

$$d = 1 - \sqrt{3} \quad t_{27} - t_{28} = -2d = 2\sqrt{3} - 2 \checkmark$$

$t_{27} > t_{28}$

(3) (4)

$$a_n: \delta^{2n}, 4 \times \delta^{2n}, \delta \times \delta^{2n} \Rightarrow \delta^{2n+1} = \delta^y \rightarrow y = 2n+1 \Rightarrow$$

(4) (5)

$$b_n: a, 4, 2n+1 \Rightarrow 2n+1 = 5 \Rightarrow n=1 \text{ و } y=2 \Rightarrow ay=4 \checkmark$$

(5) (6)

$$d=5 \Rightarrow 4n = 2n+4 \rightarrow 2n = n+4 \rightarrow n = \frac{1}{2} \Rightarrow t_2 = 4a+4 = 4 \checkmark$$

$$a_n: 1, 9, 17, \dots, 41 \Rightarrow a_n = 2n+1$$

$$b_n: 1, 9, 17, \dots, 41 \Rightarrow b_n = 2n-1$$

$$\rightarrow \text{مثلاً: } C_n = 4n-1 \rightarrow 4n-1 \leq 41 \rightarrow n \leq 11 \Rightarrow n=11 \checkmark$$

(6) (7)

$$2a_1 + 2d = 41 \rightarrow a+d = 20.5$$

$$2a + 4d = 108 \rightarrow a+2d = 54$$

$$\rightarrow d=21, a=-41 \Rightarrow \frac{a+a_2+a_1}{a_1} = \frac{21-41}{-21} = \frac{1}{3} \checkmark$$

(7) (8)

$$2a + 2d = 18 \rightarrow a+d = 9$$

$$2a + 4d = 48$$

$$\rightarrow d=10 \rightarrow d=2 \text{ و } a=7 \Rightarrow t_{10} = 29 \checkmark$$

(8) (9)

$$\frac{9}{5}(4a+11d) = \frac{27}{5}(2a+2d) \rightarrow 2a+11d = 4a+4d \rightarrow 2d=5a \rightarrow d=2.5a$$

(9) (10)

$$\rightarrow \frac{29d}{12d} = \frac{1}{3} \checkmark$$

$$4d=25 \rightarrow d=6.25 \Rightarrow 21, a, b, 25, \dots \Rightarrow d=-8 \checkmark$$

(10) (11)

$$\rightarrow -8 = \frac{-28}{n+1} \Rightarrow n=5 \checkmark$$