

181a

1. ایا و جمع - گروه دوم دفتر A - تلفظ شماره 10

الف) $t_n: 3n^2 - 1 \rightarrow n=1 \rightarrow t_1: 3 \times (1)^2 - 1 = 2$
 $n=2 \rightarrow t_2: 3 \times (2)^2 - 1 = 11$
 $\rightarrow 2, 11, 28, 63, \dots$
 $d=9$

1/5

ب) $t_n: \frac{2n+1}{n+2} \rightarrow n=1 \rightarrow t_1: \frac{2 \times 1 + 1}{1+2} = \frac{3}{3}$
 $n=2 \rightarrow t_2: \frac{2 \times 2 + 1}{2+2} = \frac{5}{4}$
 $\rightarrow \frac{3}{3}, \frac{5}{4}, \frac{7}{5}, \frac{9}{6}, \frac{11}{7}, \dots$

الف) $t_n: \frac{(-1)^n}{\sqrt{n+3}} \rightarrow n=1 \rightarrow t_1: \frac{(-1)^1}{\sqrt{1+3}} = \frac{-1}{2}$
 $n=2 \rightarrow t_2: \frac{(-1)^2}{\sqrt{2+3}} = \frac{1}{\sqrt{5}}$

2-5

ب) $t_n: 2n - \left[\frac{n}{2} \right] \rightarrow n=1 \rightarrow t_1: 2 \times 1 - \left[\frac{1}{2} \right] = 2 - 0 = 2$
 $n=2 \rightarrow t_2: 2 \times 2 - \left[\frac{2}{2} \right] = 4 - 1 = 3$

الف) $t_n: 2n-1 \rightarrow 2n-1 < 0 \rightarrow 2n < 1 \rightarrow n < \frac{1}{2} \Rightarrow n=1, 2, 3, 4 \rightarrow (1, 2, 3, 4)$

3-5

ب) $t_n: n^2 - 15n + 56 \rightarrow n^2 - 15n + 56 < 0 \rightarrow (n-7)(n-8) < 0 \Rightarrow n=7, 8 \rightarrow (7, 8)$

الف) $t_n: 2n-14 \rightarrow 2n-14 \leq 0 \rightarrow 2n \leq 14 \rightarrow n \leq 7 \Rightarrow n=1, 2, 3, 4, 5, 6, 7 \rightarrow (1, 2, 3, 4, 5, 6, 7)$

4-5

ب) $t_n: n^2 - 12n + 36 \rightarrow n^2 - 12n + 36 \leq 0 \rightarrow (n-6)(n-6) \leq 0 \Rightarrow n=6 \rightarrow (6)$

$t_4 = 5 \rightarrow d, \frac{t_4 - t_1}{4-1} = \frac{22-5}{3} = 5 \rightarrow t_3 = t_4 - d = 5 - 3 = 2$

5-5

$t_3 = 2$

الف) $t_n: n^2 - 4n + 2 \rightarrow$ باید به فرم $an^2 + bn + c$ باشد $\rightarrow n = \frac{-b}{2a} = \frac{4}{2} = 2 \rightarrow t_2 = 2^2 - 4 \times 2 + 2 = -2$

6-5

ب) $t_n: n^2 + 4n + 1 \rightarrow$ به فرم $an^2 + bn + c$ باشد $\rightarrow n = \frac{-b}{2a} = \frac{-4}{2} = -2 \rightarrow t_{(-2)} = (-2)^2 + 4 \times (-2) + 1 = -3$

7-5

$t_n: -3, -7, -11, -15, \dots$
 $-3, -7, -11, -15, \dots$
 $-3, -7, -11, -15, \dots$
 $\rightarrow a = \frac{t_2 - t_1}{2-1} = \frac{-7 - (-3)}{1} = -4$
 $C = -3 + 4 = 1 \rightarrow t_n: n^2 + bn + 1 \rightarrow t_1: 1^2 + b(1) + 1 = -3$
 $1 + b + 1 = -3 \rightarrow b = -4$
 $t_n: n^2 - 4n + 1$

$t_n: -9, -1, 7, 21, \dots$

$+5, +9, +13$

$\rightarrow t_n: an^2 + bn + c \rightarrow a = \frac{14}{2} = 7, c = -9 - 1 = -10 \rightarrow t_n: 7n^2 + bn - 10$

اختلاف، امتدادها
حل، مشتق (نقطه)

$t_1: 7(1)^2 + b(1) - 10 = -9$
 $7 + b - 10 = -9 \rightarrow b = -1$

3

$t_n: 7n^2 - n - 10$

اشترک
در مجموعه
IR

$\Rightarrow$ مناسی = نقطه $\rightarrow a+14, 2a+1 \rightarrow (a, 3)$
 $2a+1 > a+14 \rightarrow a > 13$ $[13, +\infty)$
بدون اشتراک

9

الف) $\left[\frac{100}{3}\right] = 33 \rightarrow (33)$

ج) $\left[\frac{100}{15}\right] = 6 \rightarrow (6)$

12

ب) $\left[\frac{100}{5}\right] = 20 \rightarrow (20)$

د) $33 + 20 - 6 = 47 \rightarrow (47)$