

در کستی سبزی ۳

1. پنج جمله اول دنباله های زیر را بنویسید (الف)

$$t_n = 3n^2 - 1 \rightarrow t_1 = 3(1)^2 - 1 \rightarrow t_1 = 2$$

$$t_n = 3(n)^2 - 1 \quad t_n = 11 \quad \left\{ \begin{array}{l} t_n = 3(n)^2 - 1 \rightarrow t_n = 24 \\ t_n = 3(n)^2 - 1 \rightarrow t_n = 71 \end{array} \right.$$

$$t_n = 3(n)^2 - 1 = 78$$

2 و 11 و 24 و 41 و 78 و ...

1. ب

$$t_n = \frac{2n+1}{n+8} \rightarrow t_1 = \frac{2(1)+1}{1+8} = \frac{3}{9}$$

$$\left\{ \begin{array}{l} t_2 = \frac{2(2)+1}{2+8} = \frac{5}{10} \\ t_3 = \frac{2(3)+1}{3+8} = \frac{7}{11} \end{array} \right.$$

$$t_n = \frac{2(n)+1}{n+8} = \frac{V}{V} = 1 \quad \left\{ \begin{array}{l} t_n = \frac{2(n)+1}{n+8} = \frac{9}{9} \\ t_n = \frac{2(n)+1}{n+8} = \frac{11}{9} \end{array} \right.$$

2. الف) جمله سیزدهم دنباله های زیر را بنویسید (الف)

$$t_n = \frac{(-1)^n}{\sqrt{n+3}} \rightarrow t_{13} = \frac{(-1)^{13}}{\sqrt{13+3}} \rightarrow \frac{-1}{\sqrt{16}} = -\frac{1}{4}$$

2. ب

$$t_n = 2n - \left[\frac{n}{5} \right] \quad t_{13} = 2(13) - \left[\frac{13}{5} \right] \rightarrow 26 - [2.6] = 26 - 2 = 24$$

$$24 - 13 = 11$$

5. الف)

$$t_7 = 7a + b = V \quad (9a+b) - (7a+b) = 22-V$$

$$t_9 = 9a + b = 22 \quad 2a = 10 \rightarrow a = 5$$

$$7(5) + b = V \quad \left\{ \begin{array}{l} 11 + b = V \rightarrow b = V - 11 = -4 \end{array} \right.$$

$$t_n = 5n - 4$$

$$t_{13} = 5(13) - 4 = 65 - 4 = 61$$



1 $t_n = n^2 - 4n + 1$ 6
 2 $\frac{-b}{Pa} = \frac{-1}{1} = -1 \rightarrow (1)^2 - 4(1) + 1 = 1 - 4 + 1 = -2$ الف

3 $t_n = n^2 + \epsilon n + 1$ 6
 4 $\frac{-b}{Pa} = \frac{-1}{1} = -1$ ب
 5 $-(1)^2 + \epsilon(-1) + 1 \rightarrow -1 - \epsilon + 1 = -\epsilon$ سود
 6 $t_{n=1} = 1^2 + \epsilon(1) + 1 = 2$

7 $t_1 = -\epsilon \quad \{ \quad t_2 = -1 \quad \{ \quad t_3 = 1 \quad \{ \quad t_4 = -1 \quad \{ \quad t_5 = -\epsilon$ 6

8 $t_n = an^2 + bn + c$ 7
 9 $t_1 = -\epsilon \quad \{ \quad t_2 = -1 \quad \{ \quad t_3 = 1 \quad \{ \quad t_4 = -1 \quad \{ \quad t_5 = -\epsilon$
 10 $t_1 = a(1)^2 + b(1) + c = -\epsilon$
 11 $t_2 = a(2)^2 + b(2) + c = -1$
 12 $t_3 = a(3)^2 + b(3) + c = 1$
 13 $t_4 = a(4)^2 + b(4) + c = -1$
 14 $t_5 = a(5)^2 + b(5) + c = -\epsilon$

15 $Pa = 1 \quad a = 1$
 16 $b(1) + c = -\epsilon \quad Pa + b = -1 \quad 1(1) + b = -1$
 17 $a + b + c = -\epsilon \quad b = -2$

18 $c = 1 \quad t_n = n^2 + bn + c \rightarrow t_{10} = 1(10)^2 - 2(10) + 1 = 81$

19 $t_1 = -4 \quad \{ \quad t_2 = -1 \quad \{ \quad t_3 = 1 \quad \{ \quad t_4 = 1$

20 $-4, -1, 1, 1$ 8
 21 $Pa = 1 \rightarrow a = 1$
 22 $t_1 = -4 \quad \{ \quad t_2 = -1 \quad \{ \quad t_3 = 1 \quad \{ \quad t_4 = 1$
 23 $a_1 = -4 \quad \{ \quad a_2 = -1 \quad \{ \quad a_3 = 1 \quad \{ \quad a_4 = 1$
 24 $t_n = n^2 + bn + c$
 25 $t_1 = 1^2 + b(1) + c = -4 \rightarrow b + c = -5$
 26 $t_2 = 2^2 + b(2) + c = -1 \rightarrow 4 + 2b + c = -1 \rightarrow 2b + c = -5$
 27 $t_3 = 3^2 + b(3) + c = 1 \rightarrow 9 + 3b + c = 1 \rightarrow 3b + c = -8$
 28 $t_4 = 4^2 + b(4) + c = 1 \rightarrow 16 + 4b + c = 1 \rightarrow 4b + c = -15$
 29 $b - b = -b$
 30 $C - C = 0$
 31 $-1 - (-4) = 3$

مسئله سبر علی

$$-b=1 \rightarrow b=-1 \quad P+(-1)+C=-4 \rightarrow C=-V \quad \text{8 ادا 8}$$

$$z_n = P_n - n - V$$

max

$$[P_n + 1, a + \infty) \cap [-\infty, a + F] = [P_n + 1, a + \varepsilon]$$

min

$$P_n + 1 < a + \varepsilon \rightarrow P_n - a < \varepsilon - 1 \quad a < P_n$$

اگر اشتراک هم بود قبل بود یک طرف باز و یک طرف بسته و متناهی بود $a = P_n$

$$\left\lfloor \frac{100}{10} \right\rfloor = 9 \quad \left\lfloor \frac{100}{5} \right\rfloor = P_0 \quad \mu\mu = \left\lfloor \frac{100}{\mu} \right\rfloor \quad N=100 \quad 70$$

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$$\mu\mu + P_0 - 9 = 14 \quad \text{صفت آخر}$$

$$z_n = P_n - 10$$

$$P_n - 10 < 0$$

$$z_n < 0 \quad (3 \text{ الف})$$

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$$P_n < 10$$

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$$P_n < 10 \quad (n-9)(n-10) = 0 \in P_n - 10 + \varepsilon_0 < 0 \quad \text{صفت ب}$$

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

$$(n-9)(n-10) < 0 \quad (c)$$

$$P_n - 14 < 0 \quad (4 \text{ الف})$$

$$P_n < 14$$

$$P_n < 14$$

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