

الف) $t_n = 3n^2 - 1 \rightarrow t_1 = 3(1)^2 - 1 = 2, t_2 = 3(2)^2 - 1 = 11, t_3 = 3(3)^2 - 1 = 24, t_4 = 3(4)^2 - 1 = 47, t_5 = 3(5)^2 - 1 = 74$

ب) $t_n = \frac{n+1}{n+4} \rightarrow t_1 = \frac{2(1)+1}{1+4} = \frac{3}{5}, t_2 = \frac{2(2)+1}{2+4} = \frac{5}{6}, t_3 = \frac{2(3)+1}{3+4} = \frac{7}{7}, t_4 = \frac{2(4)+1}{4+4} = \frac{9}{8}, t_5 = \frac{2(5)+1}{5+4} = \frac{11}{9}$

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

ب) $t_n = 2n - [\frac{n}{2}] \rightarrow t_{13} = 2(13) - [\frac{13}{2}] = 23$

الف) $t_n = 2n - 10 \rightarrow 2n - 10 < 0 \rightarrow 2n < 10 \rightarrow n < 5$

پس ۴ جمله از آن ها

ب) $t_n = n^2 - 14n + 40 \rightarrow n^2 - 14n + 40 < 0 \rightarrow (n-10)(n-4) < 0$

پس ۵ جمله ۵، ۶، ۷، ۸ و ۹

$$\begin{array}{c} 4 \quad 10 \\ + \quad - \quad + \end{array}$$

الف) $t_n = 2n - 14 \rightarrow 2n - 14 < 0 \rightarrow 2n < 14 \rightarrow n < 7 \rightarrow 1 < n < 7$

پس ۶

ب) $t_n = n^2 - 12n + 27 \rightarrow n^2 - 12n + 27 < 0 \rightarrow (n-9)(n-3) < 0$

پس ۶ ۳، ۴، ۵، ۶، ۷، ۸

$$\begin{array}{c} 3 \quad 9 \\ + \quad - \quad + \end{array}$$

$9 - 4 = 5$

$22 - 7 = 15$

$15 = ad \rightarrow d = 3 \rightarrow 3n - 4$

$3(2) - 4 = 2$

$t_2 = a(2) + b = 7$

$t_7 = a(7) + b = 22$

$a = 15$

$a = 3 \rightarrow 3n - 4 \rightarrow 5$

الف) $t_n = n^2 - 4n + 2 \rightarrow t_1 = (1)^2 - 4(1) + 2 = -1$

ب) $t_n = n^2 + 4n + 1 \rightarrow t_1 = (1)^2 + 4(1) + 1 = 6$

$t_n = -4, -7, -1, -4, -7, -4$

$2 = 2a \rightarrow a = 1$

$an^2 + bn + c$

$t_0 = a(0)^2 + b(0) + c = 1$

$c = 1$

$1n^2 + bn + 1 \rightarrow 1 + b + 1 = -4$

$2 + b = -4$

$b = -6$

$(1)^2 - 6(1) + 1 = -4$

5

$$a(0)^r + b(0) + c = -v$$

$$c = -v$$

$$-v = -4, -1, 1, 21$$

$$\begin{matrix} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ & 1 & 9 & 13 \\ & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ & r & r & r \end{matrix}$$

$$r = ra$$

$$r = a$$

$$r^n + bn - v \rightarrow rx1 + b - v = -4$$

$$r - v + b = -4$$

$$b = -1$$

$$a_n = r^n - n - v$$

$$ra + 1 > a + \epsilon$$

$$a < r$$

~~$$ra + 1 \leq a + \epsilon$$~~

~~$$a \leq r$$~~

$$(-\infty, r]$$

510

5

$$\left[\frac{1}{r}\right] = rr$$

$$\left[\frac{1}{a}\right] = r.$$

$$\left[\frac{1}{a}\right] = 4$$

$$rr + r. = ar - 4 = rv$$