

$$r \cdot t_n^r - 1 = t_n \quad \begin{array}{c|c|c|c|c} t_1 & t_2 & t_3 & t_4 & t_5 \\ \hline r & 11 & 26 & 47 & 74 \end{array}$$

$$t_n = \frac{r \cdot n + 1}{n + r} \quad \begin{array}{c|c|c|c|c} t_1 & t_2 & t_3 & t_4 & t_5 \\ \hline \frac{r}{0} & \frac{0}{9} & \frac{1}{5} & \frac{9}{1} & \frac{11}{9} \end{array}$$

$$t_n = \frac{(-1)^n}{\sqrt{n+r}} \quad (-1)^{13} = -1 = \frac{-1}{\sqrt{16}} = \frac{-1}{\pm 4} = \boxed{\pm 0.25}$$

$$n = 13$$

$$t_n = r \cdot n - \left\lfloor \frac{n}{r} \right\rfloor \quad 26 - 3 = \boxed{23} \quad n = 13$$

$$\left\lfloor \frac{13}{2} \right\rfloor = \lfloor 6.5 \rfloor = 6$$

$$t_n = r \cdot n - 10$$

$$r \cdot n - 10 < 0 \quad r \cdot n < 10$$

$$\boxed{23 \leq r}$$

$$n < 0 \Rightarrow 1, 2, 3, 4$$

$$0, 5, 7, 11, 9$$

$$r < n < 10$$

$$t_n$$

$$\boxed{23 \leq r}$$

$$t_n = r \cdot n - 14 \cdot n + 100$$

$$r \cdot n - 14 \cdot n + 100 < 0$$

$$n = 14 \pm \sqrt{14^2 - 4(1)(100)}$$

$$n = \frac{14 \pm \sqrt{196 - 400}}{2} = \frac{14 \pm \sqrt{-204}}{2} = \frac{14 \pm 14.28}{2} \quad n_1 = 14, n_2 = 0$$

$$t_n = r \cdot n - 19$$

$$r \cdot n - 19 \leq 0 \quad r \cdot n \leq 19$$

$$\boxed{23 \leq r}$$

$$n \leq 1$$

$$1, 2, 3, 4, 5, 6, 7, 8, 9, 10$$

$$t_n = r \cdot n - 12 \cdot n + 26$$

$$r \cdot n - 12 \cdot n + 26 \leq 0$$

$$\boxed{23 \leq r}$$

$$(n-3)(n-9) \quad n=3, n=9 \quad \frac{3 \cdot 12}{12-9+1} \quad r \cdot n \leq 12$$

$$t_r = v$$

$$t_9 = 22$$

$$\begin{cases} t_r = a + r \cdot d \\ t_9 = a + 11d \end{cases} \rightarrow \begin{cases} a + r \cdot d = v \\ a + 11d = 22 \end{cases}$$

$$9d = 10$$

$$d = 3$$

$$t_r = t_9 - d \quad t_r = 22 - 3 = \boxed{19}$$

$t_n = n^2 - 4n + 2$	$t_1 \quad t_2 \quad t_3 \quad t_4 \quad t_5 \quad \dots$ $-2 \quad -6 \quad -10 \quad -14 \quad -18 \quad \dots$ $\frac{-b}{2a} = \frac{4}{2} = 2$ $a=1 \quad b=-4 \quad \boxed{t_2 = -6}$	6
$t_n = n^2 + 2n + 1$ $\frac{-b}{2a} = \frac{-2}{2} = -1$ $a=1 \quad b=2$	$t_1 \quad t_2 \quad \dots$ $1 \quad 9 \quad \dots$ $\min \boxed{1}$ هر چه n بزرگتر شود، جمله بزرگتر می شود	7
$t_n = -1, -7, -13, -19, -25, \dots$ $+3 \quad +3 \quad +3 \quad +3$ $t_{10} = 100 - 60 + 1 = \boxed{41}$ $a_n = n^2 + 4n + 1$	$n_1 = -1 \quad n_1 = 1^2 + b(1) + c = -1$ $n_2 = -7 \quad n_2 = 2^2 + b(2) + c = -7$ $a=1 \quad \begin{cases} 1 + b + c = -1 \\ 4 + 2b + c = -7 \end{cases}$ $\begin{aligned} -b - c &= -2 \\ -b - c &= -11 \end{aligned}$ $\begin{aligned} -b &= -9 \\ b &= 9 \end{aligned}$ $c = -1$	8
$t_n = -6, -1, 4, 9, 14, \dots$ $+5 \quad +5 \quad +5$ $+2 \quad +2$ $\boxed{2n^2 - n - 6}$	$an^2 + bn + c$ $\begin{cases} n_1 = 2 + b + c = -6 \\ n_2 = 1 + b + c = -1 \\ n_3 = 4 + 2b + c = 4 \end{cases}$ $\begin{aligned} -3 + c &= -11 \\ c &= -8 \end{aligned}$ $b = -1$	9
$(-\infty, a+4] \cap [2a+1, +\infty)$ $a+4 = 2a+1$ $-a = -3$ $a = 3$ $\boxed{a \leq 3}$	در صورتی متناهی که یکدیگر را در صورتی که می قطع کنند	10
$K = \left\lfloor \frac{n}{4K} \right\rfloor$	الف) $33 = \left\lfloor \frac{100}{3} \right\rfloor$ ب) $20 = \left\lfloor \frac{100}{5} \right\rfloor$ ج) $6 = \left\lfloor \frac{100}{16} \right\rfloor$ د) $47 = 33 + 20 - 6 = \left\lfloor \frac{100}{3} \right\rfloor + \left\lfloor \frac{100}{5} \right\rfloor - \left\lfloor \frac{100}{16} \right\rfloor$	11