

الف)  $t_n = 3n^2 - 1$   $2, 11, 22, 47, 74, \dots$

(1)

ب)  $t_n = \frac{n+1}{n+5}$   $\frac{10}{5}, \frac{9}{6}, \frac{8}{7}, \frac{7}{8}, \frac{6}{9}, \dots$

الف)  $t_n = \frac{(-1)^n}{\sqrt{n+4}} = \frac{(-1)^{10}}{\sqrt{14+4}} = -\frac{1}{4}$

(2)

ب)  $t_n = 2n - \left[\frac{n}{4}\right]$   $2 \times 13 - \left[\frac{13}{4}\right] = 24 - 3 = 21$

الف)  $t_n = 2n - 10$   $2n - 10 < 0$   
 $2n < 10 \Rightarrow n < 5 \Rightarrow 1 < n < 5$   $(4-1)+1 = 4$

(3)

ب)  $t_n = n^2 - 14n + 40$   $\frac{n}{+} \frac{14}{-} \frac{40}{+}$   $5 < n < 9$   $(9-5)+1 = 5$   
 $(n-5)(n-8) < 0$   $5 < n < 8$

الف)  $t_n = 2n - 14$   $2n - 14 < 0$   $1 < n < 7$   
 $n < 7$   $(6-1)+1 = 6$

(4)

ب)  $t_n = n^2 - 12n + 27$   $\frac{n}{+} \frac{12}{-} \frac{27}{+}$   $3 < n < 9$   
 $(n-3)(n-9) < 0$   $(9-3)+1 = 7$

$\begin{cases} a(4) + b = 7 \Rightarrow -5a + b = 7 \\ a(1) + b = 24 \Rightarrow a = 15, b = -5 \end{cases}$   $(15 \times 3) + b = 7$   $t_3 = (15 \times 3) - 5 = 40$   
 $b = -5$

(5)

الف)  $t_n = n^2 - 9n + 2$   $\frac{-b}{2a} = \frac{9}{2} = 4.5$   
 $9 - 1 \times 2 = 7$

(6)

ب)  $t_n = n^2 + 8n + 1$   $\frac{-b}{2a} = -4$   
 $4 - 1 + 1 = 4$

$t_n = -1, -4, -9, -16, -25, \dots$   
 $-1, -4, -9, -16, -25, \dots$   
 $-1, -4, -9, -16, -25, \dots$

$2a = 2$   
 $a = 1$

$t_1 = 1 + b + c = -1 \Rightarrow -b - c = 2$   
 $t_2 = 4 + 2b + c = -4 \Rightarrow 2b + c = -8$   
 $b = -9$   
 $1 + (-9) + c = -1$   
 $c = 7$

$t_n = n^2 + (-9n) + 7$   
 $10^2 - 90 + 7 = 1$

$$t_n = -4, -1, 1, 11, \dots$$

$$t_a = f$$

$$a = 1$$

$$t_1 = 1 + b + c = -4 \Rightarrow -b - c = 1 \quad (1)$$

$$t_2 = 1 + 2b + c = -1 \quad 2b + c = -9$$

$$b = -1$$

$$1 + (-1) + c = -4$$

$$c = -4$$

$$G_{\text{GNA}} = t_n r - n - V$$

$$(-\infty, a+f] \cup [a+1, +\infty)$$

$$a+1 \gg a+f \quad \text{بزرگی شد}$$

$$a \gg 1 \quad [1, +\infty)$$

(9)

(ب) الف

$$1 < n < 100$$

$$(100-1) + 1 = 100$$

$$\frac{1}{100} < n < \frac{100}{100}$$

$$1 < n < 100$$

$$1 < n < 100$$

$$(100-1) + 1 = 100$$

$$1 < n < 100$$

$$1 < n < 100$$

$$(100-1) + 1 = 100$$

$$1 < n < 100$$

$$(100 + 100) - 100 = 100$$

(1)

(2)

(3)