

سوال (1)

n	1	2	3	4	5
$3n^2 - 1$	2	11	26	47	74

ب) $\frac{2n+1}{n+4} \Rightarrow \frac{3}{5}, \frac{5}{4}, \frac{7}{5}, \frac{9}{4}, \frac{11}{5}$

سوال (2) الف) $t_n = \frac{(-1)^n}{\sqrt{n+3}} \Rightarrow t_{13} = \frac{-1^{13}}{\sqrt{13+3}} = \frac{-1}{\sqrt{16}} = -\frac{1}{4}$

ب) $2n - \left\lfloor \frac{n}{2} \right\rfloor \Rightarrow \frac{2 \times 13}{26} - \left\lfloor \frac{13}{4} \right\rfloor = 22$

سوال (3) الف) $2n - 10 < 0 \Rightarrow n < 5$

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

سوال (5) الف) $t_4 = 7, t_9 = 22, t_3 = ?$
 ب) $t_4 = 7, t_9 = 22 \Rightarrow t_3 = ?$

سوال (6) الف) $n^2 - 4n + 2 \Rightarrow \frac{-b}{2a} = \frac{4}{2} = 2$
 $\Rightarrow 3^2 - 12 + 2 = -7$

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

سوال (4) الف) $2n - 14 < 0 \Rightarrow n < 7$

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

سوال (7) الف) $t_n = -4, -7, -10, -13, -16, -19, -22, -25, -28, -31, -34, -37, -40, -43, -46, -49, -52, -55, -58, -61, -64, -67, -70, -73, -76, -79, -82, -85, -88, -91, -94, -97, -100$

ب) $\frac{2}{2}n^2 - 4n + 7 \Rightarrow 100 - 40 + 7 = 67$

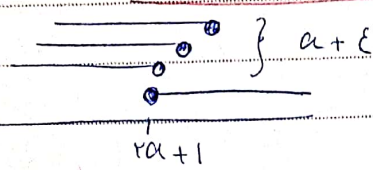
$$(n-4, -1, 1, 2, 1, \dots)$$

$\underbrace{-4, -1}_{\epsilon}$
 $\underbrace{1, 2}_{\epsilon}$
 $\underbrace{1}_{\epsilon}$
 $\underbrace{2, 1}_{\epsilon}$

$$\frac{4}{2}n^2 + -n + -v$$

✓ حد درجه 2

(سوال 8)



(سوال 9)

$$a + \epsilon < 2a + 1$$

$$\epsilon < a$$

(سوال 10)

الف) $\left[\frac{100}{3} \right] \leq 33$

ج) $\left[\frac{100}{5 \times 3} \right] \leq 4$

ب) $\left[\frac{100}{5} \right] \leq 20$

د) $20 + 33 - 4 \leq 49$

$$n(A \cup B) \leq n(A) + n(B) - (n(A \cap B))$$