

دوم فرض A

19, 5

عبارت سمارت

الف، $3(1)^2 - 1 = 2$
 $3(2)^2 - 1 = 11$
 $3(3)^2 - 1 = 22$

$3(4)^2 - 1 = 47$
 $3(5)^2 - 1 = 74$
 $2, 11, 22, 47, 74, \dots$

ب) $\frac{3(1)+1}{1+4} = \frac{4}{5}$ $\frac{3(2)+1}{2+4} = \frac{7}{6}$ $\frac{3(3)+1}{3+4} = \frac{10}{7}$
 $\frac{3(4)+1}{4+4} = \frac{13}{8}$ $\frac{3(5)+1}{5+4} = \frac{16}{9}$
 $\frac{3(6)+1}{6+4} = \frac{19}{10}$
 $\frac{3}{5}, \frac{7}{6}, 1, \frac{10}{7}, \frac{13}{8}, \frac{16}{9}$

الف، $\frac{(-1)^{13}}{\sqrt{13+3}} = \frac{-1}{\sqrt{16}} = -\frac{1}{4}$

ب، $3(13) - \left[\frac{13}{4}\right] = 39 - 3 = 36$

الف، $n = 1, 2, 3, 4 \rightarrow$ جمله 4
 منتهی نمی شود

ب $(n-10)(n-4)$
 $n = 5, 6, 7, 8, 9 \rightarrow$ جمله 5
 منتهی نمی شود

الف $n = 1, 2, 3, 4, 5, 6, 7, 8 \rightarrow$ جمله 8
 نامنتهی می شود

ب $(n-3)(n-9)$
 $n = 4, 5, 6, 7, 8, 9 \rightarrow$ جمله 7

$\frac{a_m - a_n}{m - n} = d$ $\frac{22 - 7}{9 - 4} = \frac{15}{5} = 3 = d$

$3(f) + b = 7 \rightarrow b = 4$
 $t_n = 3n - 4$ $t_p = 3(3) - 4 = 5$

الف، $n_{min} = -\frac{b}{2a} = -\frac{-4}{2(1)} = \frac{4}{2} = 2 = n$ n صحیح مقادیر

$a_{min} = (3)^2 - 4(3) + 2 = -1$

ب، $n_{min} = -\frac{b}{2a} = -\frac{-4}{2(1)} = 2$ $a_{min} = (-2)^2 + 4(-2) + 1 = -3$

$-4, -7, -11, -16, -21, \dots$
 $\begin{matrix} \xrightarrow{-3} & \xrightarrow{-4} & \xrightarrow{-5} & \xrightarrow{-6} \\ -4 & -7 & -11 & -16 \end{matrix}$

$a+b+c = -4 \rightarrow 1-4+c = -4 \rightarrow c = -1$
 $2a+b = -3 \rightarrow 2+b = -3 \rightarrow b = -5$
 $2a = 2 \rightarrow a = 1$

$an^2 + bn + c \rightarrow n^2 - 9n + 1$

$t_{10} = (10)^2 - 9(10) + 1 = 1$

$-6, -1, 1, 4, \dots$
 $\begin{matrix} \xrightarrow{5} & \xrightarrow{5} & \xrightarrow{5} \\ -6 & -1 & 1 \end{matrix}$

$a+b+c = -6$ $2-1+c = -6 \rightarrow c = -7$
 $3a+b = 4$ $3(2)+b = 4 \rightarrow b = -2$
 $2a = 4 \rightarrow a = 2$

$an^2 + bn + c \rightarrow a_n = 2n^2 - 2n - 7$

$\left[\frac{100}{15}\right] = 6$ ج

$\left[\frac{100}{3}\right] = 33$ الف

$2a+1 \geq a+4$ 9

$33+20-4 = 49$ د

$\left[\frac{100}{5}\right] = 20$ ب

$a \geq 3$ 10