

Subject:

Year.

Month.

Date.

()

Name.



سوال 4) $tn = an + b \rightarrow \begin{cases} t_3 = 3a + b \\ t_{10} = 10a + b \end{cases}$ $3a = 12 \rightarrow a = 4$

$\begin{cases} t_4 = 4a + b \\ t_1 = a + b \end{cases} \xrightarrow{\text{منها}} a = 2, b = 2$

سوال 5) $an = An + b \begin{cases} a_2 = 2A + B = 7 \\ a_4 = 4A + B = 10 \end{cases} \xrightarrow{\text{منها}} 2A = 1, A = \frac{1}{2} \rightarrow B = 1$

$an = 2n - 1 \rightarrow a_1 = 1, a_3 = 5$

سوال 6) $bn = cn + d \rightarrow \begin{cases} b_1 = c + d = 3 \\ b_2 = 2c + d = 11 \end{cases} \rightarrow c = 4, d = -1 \rightarrow bn = 4n - 1$

$an (100) = 2, 4, 10, 14, \dots \rightarrow an = 2n - 2$

$bn (100) = 5, 7, 9, 11, \dots \rightarrow bn = 2n + 3$

$tn = \frac{kn - r}{2n + p} < \frac{p}{r} \rightarrow 1n - r < 2n + p \rightarrow 2n < 13 \rightarrow n < 6.5$

★ جواب: 5 جمله که کوچکتر از 13 دارد

سوال 9) $tn = 4, 9, 14, 19, \dots$

$3A + 5B = 33$

$tn = 3A + 5B$

$3(-\frac{3}{2}) + 5(\frac{15}{2}) = -\frac{9}{2} + \frac{75}{2} = 33$

$t_1 = -\frac{3}{2} + B = 4 \rightarrow B = \frac{11}{2}$

$3A + 5B = 33$

سوال 10)

$-4, -9, -14, \dots$

$+2, +2$

$2a = 2 \rightarrow a = 1$

$tn = an^2 + bn + c \rightarrow \begin{cases} t_1 = a + b + c = -4 \\ t_2 = 4a + 2b + c = -9 \end{cases} \rightarrow b = -1 \rightarrow bn = n^2 - n - 4$

$bn = An + B$

$b_1 = 1A + B = -4$

$\Rightarrow A = 0 \rightarrow bn = -n - 4$

$b_2 = 4A + B = -9 \rightarrow B = -5$

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$n^2 - n - 4 = an + b \rightarrow n^2 - 2n - 4 = 0 \rightarrow n = 4$