

$t_n = 5, 9, 13, 17 \rightarrow t_n = 4n + 1$ (ان)

$4(1) + 1 = 5$ (ب)

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$t_n = 4, 10, 16, 22, \dots$ $t_n = 6n + 2$

اول $\rightarrow S_n = \frac{n}{2}(a_1 + a_n) \rightarrow \frac{1}{2}(4 + 22) \rightarrow S_1 = 13$ (ان)

$a_{10} = 4(10) + 2 = 42$

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$\rightarrow 2 \times 18 = 36 \rightarrow a_{18} = 36 \rightarrow a_{17} = 34 \rightarrow a_{16} = 32 \rightarrow a_{15} = 30 \rightarrow a_{14} = 28 \rightarrow a_{13} = 26 \rightarrow a_{12} = 24 \rightarrow a_{11} = 22 \rightarrow a_{10} = 20 \rightarrow a_9 = 18 \rightarrow a_8 = 16 \rightarrow a_7 = 14 \rightarrow a_6 = 12 \rightarrow a_5 = 10 \rightarrow a_4 = 8 \rightarrow a_3 = 6 \rightarrow a_2 = 4 \rightarrow a_1 = 2$

$1 + \sqrt{2}, 2, 2 - \sqrt{2}, \dots \rightarrow a_{18}, a_{17} = ?$

$2 - \sqrt{2} - 2 = 2 - 1 - \sqrt{2} \rightarrow 1 - \sqrt{2} = d$

$a_{17} \rightarrow a_1 + 16d \rightarrow 1 + \sqrt{2} + 16(1 - \sqrt{2}) \rightarrow 1 + \sqrt{2} + 16 - 16\sqrt{2} \rightarrow 17 - 15\sqrt{2}$

$a_{18} \rightarrow a_1 + 17d \rightarrow 1 + \sqrt{2} + 17(1 - \sqrt{2}) \rightarrow 1 + \sqrt{2} + 17 - 17\sqrt{2} \rightarrow 18 - 16\sqrt{2}$

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$a_n = a^n, 2 \times 10^n, 5^y / b_n = n, 2, y \rightarrow y - 2 = 2 - n \rightarrow y = 2 - n$

$\rightarrow a \times b = \frac{a^y + a^x}{2} \rightarrow 2 \times 10^x = \frac{a^y + a^x}{2} \rightarrow 4 \times 10^x = a^y + a^x \rightarrow a^y = 4 \times 10^x - a^x \rightarrow a^y = a^x(4 - 1) = 3a^x \rightarrow a^{y-x} = 3 \rightarrow a^{2-n-x} = 3$

$n \times y \rightarrow 1 \times 3 = 3 \rightarrow y = 3 - n \rightarrow y = 3 - 1 = 2 \rightarrow y = 2$

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$2n - 2, 2n - 1, 2n, \dots \rightarrow 2n - 2n + 1 = 2n - 1 - 2n + 2$

$\rightarrow 2n = 2 \rightarrow n = 1$

$2(1) - 2 = 0$

$a_n = 2n - 2 \rightarrow d = 2$

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$a_n = r, d, v, \dots \rightarrow r_{n+1}$
 $b_n = r, d, n, \dots \rightarrow r_{n-1}$

$\rightarrow$ سطر دوم $\Rightarrow$

$r, 11, 17, \dots$
 $+4 \quad +4 \rightarrow a_{n-1}$

$r_{n+1} \rightarrow r(r.) + 1 \rightarrow \textcircled{\varepsilon_1}$
 $r_{n-1} \rightarrow r(r.) - 1 \rightarrow \textcircled{\Delta^9}$

$a_n = 4r \leftarrow a_{n-1} = \varepsilon_1$
 $n = \sqrt{\quad}$

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تا سطر یک وجود دارد. (تأیید می شود)

$$\begin{aligned}
 a_1 + ar + ar &= r_1 \\
 a_1 + ar + ar &= 1.2
 \end{aligned}
 \left. \begin{aligned}
 & \\
 &
 \end{aligned} \right\}
 \begin{aligned}
 a_1 + a_1 + d + a_1 + d &= r_1 \rightarrow r a_1 + r d = r_1 \rightarrow a_1 + d = v \\
 a_1 + a_1 + r d + a_1 + r d &= 1.2 \rightarrow r(a_1 + r d) = 1.2
 \end{aligned}$$

$$\frac{a_1 + r d = r a}{a_1 + d + d = r a} \rightarrow \frac{a_1 + r d}{a_1 + d + d} = \frac{r a}{r a} \rightarrow \frac{a_1 + r d}{a_1 + d + d} = 1$$

$$a_1 + r d - (a_1 + d) + a_1 \rightarrow a_1 + r d - a_1 - d + a_1 \rightarrow a_1 + d$$

$$\frac{v}{a_1 + r_1} \rightarrow \frac{v}{-r_1} = \frac{-1}{r_1} = -\frac{1}{r_1}$$

$a_1 + ar + ar = 18 \rightarrow a_1 + a_1 + d + a_1 + rd = 18 \rightarrow a_1 + d = 6$
 $a_2 + a_n = 18$
 $a_1 + rd + a_1 + rd = 18 \rightarrow 2a_1 + 2d = 18 \rightarrow (a_1 + d) + (a_1 + d) = 18 \rightarrow 2d = 18 \rightarrow d = 9$
 $a_n = 18 - 1 \rightarrow 17 \rightarrow 17$
 $a_1 + 9 = 6 \rightarrow a_1 = -3$

[illegible]

$+d \left(\begin{matrix} a_1 = 11 \\ a_n = 20 \end{matrix} \right) + 18 \rightarrow 18 = 4d \Rightarrow \boxed{d = 4.5} \rightarrow a_n = 11 + 4.5n \rightarrow \frac{11 + 4.5n}{1} + 18 \rightarrow 29$
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$a_n = a_1 + (n-1)d \rightarrow d = \frac{a_n - a_1}{n-1} \rightarrow d = \frac{19 - 11}{n-1} \rightarrow \left(\frac{-10}{n-1} \right) = d$

$a_2 \rightarrow a_1 + 1d \rightarrow 11 + 1\left(\frac{-10}{n-1}\right) \rightarrow n-1 = \frac{10}{18} \rightarrow \boxed{n=4} \rightarrow (-2) \rightarrow \left(\begin{matrix} 19 \\ -2 \end{matrix} \right)$
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