

$$\begin{array}{r} 17, 13, 9 \\ \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \\ 19, 15, 11 \end{array}$$

$$t_n = f_{n+1} \rightarrow f(10) + 1 = \underline{f(11)}$$

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$$\begin{array}{r} 18, 14, 10, 6 \\ \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \\ 20, 16, 12, 8 \end{array}$$

$$t_n = f_n + 2 \rightarrow t_{10} = f(10) + 2 = f(12)$$

$$\frac{1}{2} (4 + 18) = 11$$

$$\begin{aligned} t_{10} + t_{11} + t_{12} + t_{13} &= \\ 9 + 11d + 11 + 13d + 12 + 15d + 13 + 17d &= \end{aligned} \left\{ \begin{array}{l} f_{14} + 11d = \\ f(4) + 11d = \\ \underline{49} \end{array} \right.$$

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$$1 + \sqrt{3}, 2, 3 - \sqrt{3}$$

$$3 - \sqrt{3} - 2 = 1 - \sqrt{3} = d$$

$$t_{18} - t_{17} = a + 17d - a - 17d = 17d = 17(1 - \sqrt{3}) = \underline{17 - 17\sqrt{3}}$$

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$$3 \times \Delta^{2n} - \Delta^{2n} = \Delta^y - 3 \times \Delta^{2n} \rightarrow 3 \times \Delta^{2n} - \Delta^{2n} + 3 \times \Delta^{2n} = \Delta^y$$

$$\rightarrow \Delta^{2n} (3 - 1 + 3) = \Delta^y \rightarrow \Delta^{2n+1} = \Delta^y$$

$$y - 2 = 2 - n \rightarrow y = 4 - n \rightarrow 2n+1 = 4 - n \rightarrow 3n = 3 \rightarrow n = 1$$

$$ay = 1 \times 3 = \underline{3}$$

$$y = 3$$

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$$\left. \begin{array}{l} f_n - 2 = \Delta n - 2 \\ 2 = f_n \end{array} \right\} n = \frac{2}{1} = \underline{2}$$

$$\begin{array}{r} 3, 0, 3 \\ \xrightarrow{+3} \xrightarrow{+3} \\ 6, 3, 0 \end{array}$$

$$t_n = 3n - 4 \Rightarrow t_6 = 3(6) - 4 = \underline{14}$$

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$$a_1, a_2, a_3, \dots = 4 \quad \text{و این جمله ششمی} = 5$$

$$3, 7, 9, 11, 13, 15, 17, 19 \rightarrow r_{n+1} \Rightarrow r_0 \Rightarrow r(r_0)+1 = 11$$

$$2, 5, 8, 11, 14, 17, 20, 23, 26 \rightarrow r_{n-1} \Rightarrow r_0 \Rightarrow r(r_0)-1 = 29$$

$$5 + 4(n-1) \leq 11$$

$$5 + 4n - 4 \leq 11$$

$$4n - 1 \leq 11$$

$$4n \leq 12 \quad n \leq 3 \rightarrow \{1, 2, 3, 4, 5, 6, 7\}$$

$$a_1 + a_r + a_p = 21$$

$$ra + rd = 21 \quad [a+d=V]$$

$$(a+rd) - (a+d) + a \leftarrow a_p - a_r + a_1 =$$

$$a_1 = -21$$

$$a_1 + a_p + a_d = 10d$$

$$\Rightarrow d = rd - V = 21$$

$$ra + 4d = 10d$$

$$a = -21$$

$$-\frac{V}{r1} = \left(-\frac{1}{p}\right)$$

$$r(a+rd) = r(rd)$$

$$a+rd = rd$$

$$ra_1 + rd = 1d \quad (r)$$

$$ra_1 + Vd = 2d \quad (r)$$

$$\begin{aligned} ra_1 + 4d &= 10 \\ 4a_1 + 11d &= 11d \end{aligned} \rightarrow \begin{aligned} 10d &= 11d \\ d &= 9 \end{aligned}$$

$$ra_1 + 9 = 10$$

$$a_1 = 1$$

$$a_{10} = 1 + 9(9) = 82$$

$$\frac{9}{r}(ra_1 + 1d) = 9 \times \frac{r}{r}(ra_1 + rd) \Rightarrow 9(a_1 + rd) = 9(ra_1 + rd) \Rightarrow$$

$$11a_1 = 9d \Rightarrow ra_1 = d \Rightarrow a_1 = \frac{d}{r}$$

$$\frac{a_{r0}}{a_r} = \frac{a_1 + 11d}{a_1 + 4d} = \frac{11d + d}{4d + d} = \frac{12}{5}$$

$$a_1 = 11$$

$$a_1 + 4d = 2d$$

$$4d = 2d \quad d = 0$$

$$11 + 4(n-1) = 4n + 7$$

$$a_1 = 11$$

$$a_r = a + rd = 2d$$

$$rd = 2d - 11$$

$$d = -5$$

$$E(4) + 7 = 23$$

$$11 - 5(n-1) = 11 - 5n + 5 = 16 - 5n$$

$$a_n = 16 \Rightarrow 16 - 5n = 16$$

$$\begin{aligned} -5n &= -30 \\ -5n &= 16 - 16 \end{aligned} \rightarrow \begin{aligned} -5n &= -30 \\ n &= 6 \end{aligned}$$

پس 13 جمله است

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