

Year:

Month:

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19/11/20

Subject: سلاعریز



$$t_n = 1, 2, 3, \dots$$

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$$t_{10} = (t_1 + 9d) = 10$$

$$t_n = 1, 2, 3, \dots \rightarrow t_n = 1 + (n-1)d \rightarrow t_9 = 10 \rightarrow d = 1$$

$$S_{10} = \frac{10}{2} (2 \times 1 + (10-1) \times 1) = 5(2+9) = 5 \times 11 = 55$$

$$S_{10} = 1 + 2 + 3 + \dots + 10 = 55$$

$$r - 1 - \sqrt{r} = 1 - \sqrt{r} = d \rightarrow a_{10} - a_{19} = a + 9d - a - 19d = -10d = 2(1 - \sqrt{r}) = 2 - 2\sqrt{r}$$

$$a_n = a \cdot r^{n-1}, b_n = n, r, y \rightarrow r - n = y - r \rightarrow y = r - n$$

$$r \times a_n - a \cdot r^n = a \cdot y - r \times a^n$$

$$r \times a^n - a \cdot r^n = a \cdot y \rightarrow r \cdot a^n (r - 1) = a \cdot y \rightarrow a \cdot r^n = \frac{a \cdot y}{r - 1} \rightarrow r^{n+1} = \frac{a \cdot y}{r - 1} \rightarrow r^{n+1} = y$$

$$\rightarrow r^{n+1} = y - n \rightarrow r^n = r \rightarrow n = 1 \rightarrow y = r - 1 = r \rightarrow n \cdot y = r \times 1 = r$$

$$r_{n-1}, r_n, r_{n+1}, \dots \rightarrow r_{n-1} - r_{n+1} = 4r_n - r_{n+1} \rightarrow n = \frac{1}{r}$$

$$\rightarrow r_0, r_1, r_2, \dots \rightarrow d = r, a_1 = -r \rightarrow a_8 = a_1 + 7d = -r + 7r = 6r$$

$$a_n = r, b_n = n, r, y \rightarrow a_n = r_{n+1} \rightarrow a_0 = 1 \rightarrow t_n = a, b, \dots \rightarrow t_n = r_{n-1} \rightarrow r_{n-1} \leq \epsilon$$

$$b_n = r, a_n = n, r, y \rightarrow b_n = r_{n+1} \rightarrow b_{10} = a_9$$

$$r \cdot a_1 + d = 1 \rightarrow a_1 + d = 1 \rightarrow a_1 = 1 - d$$

$$a_1 + a_2 + a_3 = 1 \rightarrow a_1 + a_1 + d + a_1 + 2d = 1 \rightarrow 3a_1 + 3d = 1 \rightarrow a_1 + d = \frac{1}{3}$$

$$a_1 + a_2 + a_3 = 10a \rightarrow a_1 + r + r^2 = 10a \rightarrow a_1 = 10a - r - r^2$$

$$r \cdot a_1 + d = 10a$$

$$a_1 + r = 10a \rightarrow a_1 = 10a - r$$



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$$a_1 + a_2 + a_3 = a_1 + r + a_1 + r + a_1 + r = 10 \rightarrow 3a_1 + 3r = 10 \rightarrow r = \frac{10 - 3a_1}{3}$$

$$a_1 + a_2 = a_1 + r + a_1 + r + a_1 + r = 10 \rightarrow 3a_1 + 3r = 10 \rightarrow r = \frac{10 - 3a_1}{3}$$

$$a_1 + r + 10 = 10 \rightarrow a_1 = 0 \rightarrow 0, 1, 2, \dots \rightarrow d = 1$$

$$a_1 = 0, a_2 = 1, a_3 = 2, \dots$$

$$S_3 = 9 \rightarrow \frac{3}{2}(a_1 + a_3) = 9 \rightarrow a_1 + a_3 = 6 \rightarrow a_1 + a_1 + 2r = 6 \rightarrow 2a_1 + 2r = 6 \rightarrow a_1 + r = 3$$

$$\rightarrow a_1 = a_1, a_2 = a_1 + r = a_1 + 1, a_3 = a_1 + 2r = a_1 + 2 \rightarrow a_1 = 1$$

$$\rightarrow \frac{a_1 + a_n}{2} = \frac{a_1 + a_1 + (n-1)r}{2} = \frac{2a_1 + (n-1)r}{2} = \frac{2 + (n-1)r}{2}$$

$$a_1 = 1, a_2 = 1 + r = 1 + 1 = 2, a_3 = 1 + 2r = 1 + 2 = 3 \rightarrow a_3 = 3$$

$$b_1 = 1, b_2 = 1 + r = 1 + 1 = 2$$

$$b_2 = b_1 + r = 1 + 1 = 2 \rightarrow 1 + r = 2 \rightarrow r = 1$$

$$\frac{15 - 1}{n+1} = -1 \rightarrow 14 = -(n+1) \rightarrow n = -15$$