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تلف ششماره ۱۸ یا زودتر A

طول عرض $\frac{\omega}{4} \rightarrow \frac{\omega+n}{4} = \frac{1+\sqrt{5}}{2} \rightarrow 1+n = 4+4\sqrt{5} \rightarrow n = 4\sqrt{5}-3$

طول ثانویه $n+\omega = 4\sqrt{5}-3+\omega = 4\sqrt{5}+2$ $S_1 = 4 \times \omega = 2$ $S_2 = 4 \times (2+4\sqrt{5}) = 8+16\sqrt{5}$

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$\frac{S_2}{S_1} = \frac{8+16\sqrt{5}}{2} = 4\sqrt{5}+2$

تقر $\frac{1+\sqrt{5}}{2}$ طول $(1+\sqrt{5})^2 = (2)^2 = 4 = 1+4\sqrt{5}+\omega = 4 = 4\sqrt{5}+2 = (\text{عرض})^2$

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$(\frac{\text{طول}}{\text{عرض}})^2 = \frac{4}{4\sqrt{5}+2} \times \frac{4\sqrt{5}-2}{4\sqrt{5}-2} = \frac{16-4}{16} = \frac{12}{16} = \frac{3}{4}$

$ra + \sqrt{ra^2 + 4a} = 2 \rightarrow \sqrt{ra^2 + 4a} = 2 - ra \rightarrow ra^2 + 4a = 4 - 4ra + 4a^2 \rightarrow 4a^2 - 4ra + 4a - 4 = 0$

$\Delta: b^2 - 4ac = (14)^2 - 4(4)(-4) = 196 + 64 = 260$ $a = \frac{14 \pm \sqrt{260}}{8} \rightarrow a = 2, a = \frac{r}{v}$
 $a = 2 \rightarrow 2(2) + \sqrt{2(2)^2 + 4(2)} = 10 \neq 2$ غلط

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$a = \frac{r}{v} \rightarrow 2(\frac{r}{v}) + \sqrt{2(\frac{r}{v})^2 + 4(\frac{r}{v})} = 2$ صحیح $\Rightarrow a = \frac{r}{v}$

$\frac{a+1}{a} = \frac{\frac{r}{v}+1}{\frac{r}{v}} = \frac{1}{v} \times \frac{v}{r} = \frac{1}{r} = \frac{1}{4}$

$(\sqrt{n+1})(2-\sqrt{n-1})(\sqrt{n-1}) = (\sqrt{n+1})(\sqrt{n-1}+2)(\sqrt{n-1}) = (n-1)(\sqrt{n-1}+2)(\sqrt{n-1}+2)$

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$2\sqrt{n-1} + (1-n)\sqrt{n+1} + (1-n)\sqrt{n+1} - 2\sqrt{n-1} = (1-n)(n-1)$

$-2(n-1)\sqrt{n+1} = (1-n)(n-1) \rightarrow -2\sqrt{n+1} = 1-n$ $2\sqrt{n+1} = 1-n$ $4n+4 = 1-2n+n^2$

$n^2 - 24n + 94 = 0$ $\begin{cases} \Delta > 0 \\ 5 > 0 \\ D > 0 \end{cases} \rightarrow$ درجه مثبت دارد $\left\{ \begin{array}{l} \text{ا و ۱۰ که ریشه های منفرد هستند غیر ریشه های معادله هستند} \\ (1)^2 - 24(1) + 94 \neq 0 \quad (10)^2 - 24(10) + 94 \neq 0 \end{array} \right.$
 $n > 12$ پس $12 - 4\sqrt{4}$ غیر قابل قبول باشد و تنها ا ریشه مثبت دارد

$(2-\sqrt{2-n})(2+\sqrt{2-n}) = (\sqrt{2-n}+2)(2+\sqrt{2-n}) = (2-n)(\sqrt{2-n}+2)(2+\sqrt{2-n})$

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$10n - 20 = 4 - n^2 \rightarrow n^2 + 10n - 24 = 0$ $\begin{cases} \Delta > 0 \\ 5 < 0 \\ D < 0 \end{cases} \rightarrow$ ریشه مثبت ندارد $\left\{ \begin{array}{l} \text{۲ که ریشه منفرد هست ریشه مثبت دارد} \\ (2)^2 + 10(2) - 24 = 0 \end{array} \right.$
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 $(2)^2 + 10(2) - 24 = 0$
 $\leftarrow$ معادله ریشه مثبت ندارد!

$$\frac{1}{n^r} + \frac{1}{(1-n)^r} = \frac{14}{9} \rightarrow \frac{r n^r - r n + 1}{n^r (1-n)^r} = \frac{14}{9} \rightarrow \frac{r(n(n-1) + \frac{1}{r})}{(n(n-1))^r} = \frac{r}{n(n-1)} + \frac{1}{(n(n-1))^r} = 9$$

$$n(n-1) = n \rightarrow \frac{r}{n} + \frac{1}{n^r} = \frac{14}{9} \rightarrow \frac{r n + 1}{n^r} = \frac{14}{9} \rightarrow 14 n^r - 9 n - 1 = 0 \rightarrow \Delta = 40 A^2$$

$$n = \frac{14 \pm \sqrt{40}}{14} \rightarrow n = \frac{r}{14} \quad n = \frac{-r}{14} \quad n = 0/r \rightarrow n^r - n - 1/r = 0 \rightarrow n = \frac{1 \pm \sqrt{r/r}}{r} \quad (2)$$

$$n = \frac{-r}{14} \rightarrow n^r - n + \frac{r}{14} = 0 \rightarrow n = \frac{1 \pm \sqrt{1/r}}{r}$$

$$\text{جمع کنیم: } \frac{1 + \sqrt{r/r} + 1 - \sqrt{r/r} + 1 + 1/r + 1 - 1/r}{r} = \frac{4}{r} = 2$$

1+1=2، هر دو عدد 1 است

$$n^r + 4n - 1 > 0 \rightarrow n^r - 4n + 1 < 0 \quad \begin{array}{c|c|c|c} n & r & \epsilon & \\ \hline 1 & 1 & - & + \end{array} \quad D: r < n < \epsilon \quad (2)$$

$$-n^r + \epsilon n^r + r \omega n - 1 > 0 \rightarrow (n - \epsilon)(n^r + r \omega) < 0 \quad \begin{array}{c|c|c|c} n & -\omega & \epsilon & \omega \\ \hline 1 & - & + & - \end{array} \quad D: (-\infty, -\omega] \cup [\epsilon, \omega]$$

$$D_1 \cap D_r = \{\epsilon\} \rightarrow \sqrt{\epsilon} + \sqrt{14} = \epsilon + r \rightarrow r + \epsilon = 4 \quad \checkmark$$

$$n < r \rightarrow -n - r - n + 1 = \frac{-n}{r} + \frac{14}{r} \rightarrow r n + \frac{n}{r} = \frac{14}{r} + \frac{r}{r} \rightarrow \frac{-\omega n}{r} = \frac{r}{r} \quad \boxed{n = -\epsilon, y = 4} \quad \Delta$$

$$-r < n < 1 \rightarrow -n + r - n + 1 = \frac{-n}{r} + \frac{14}{r} \rightarrow \frac{-n}{r} = \frac{1}{r} - \frac{14}{r} \rightarrow \frac{-n}{r} = \frac{-1}{r} \rightarrow n = 1 \quad \times \quad \text{نویز نیست}$$

$$n > 1 \rightarrow n + r - n + 1 = \frac{-n}{r} + \frac{14}{r} \rightarrow r n + \frac{n}{r} = \frac{14}{r} + \frac{r}{r} \rightarrow \frac{v n}{r} = \frac{14}{r} \rightarrow \boxed{n = r, y = \omega}$$

$$\overline{AB} = \sqrt{(r+\epsilon)^r + (\omega-v)^r} = \sqrt{r^4 + \epsilon} = \sqrt{\epsilon + 1} = r\sqrt{10}$$

$$y = \sqrt{(n-r)^r} \rightarrow y = |n-r|, \quad y = \frac{1}{r} n + r$$

$$\frac{1}{r} n + r = n - r \rightarrow n = 1, y = 4$$

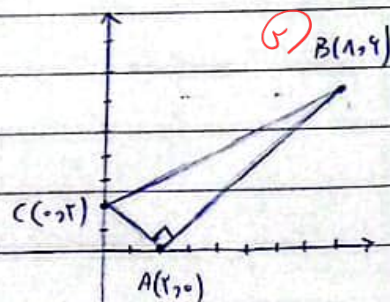
$$\frac{1}{r} n + r = -n + r \rightarrow n = 0, y = r$$

$$\overline{AB} = \sqrt{r^4 + r^4} = 4\sqrt{r}$$

$$\overline{AC} = \sqrt{\epsilon + \epsilon} = r\sqrt{r}$$

$$S = \frac{4\sqrt{r} \times r\sqrt{r}}{r} = 1r$$

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$$\frac{1}{n} + \frac{1}{n+9} = \frac{1}{r_0} \rightarrow \frac{r_0 n + 9}{n^2 + 9n} = \frac{1}{r_0} \quad -10$$

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$$\rightarrow r_0 n + 110 = n^2 + 9n \rightarrow n^2 - 31n - 110 = 0$$

$$\rightarrow (n - 34)(n + 5) = 0 \rightarrow \boxed{n = 34} \quad n = -5 \text{ غير ممكن}$$

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