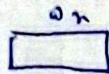
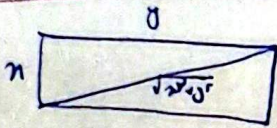


طول $\frac{\sqrt{5}+1}{2}$ و عرض



$$\frac{\sqrt{5}+1}{2} \leq \frac{L}{r_n} \Rightarrow L \geq r_n(\sqrt{5}+1)$$

$$L_{\min} = r_n \times r_n(\sqrt{5}+1) \Rightarrow \frac{r_n \times r_n(\sqrt{5}+1)}{r_n \times 2r} = \frac{\sqrt{5}+1}{2}$$



$$\frac{\sqrt{n^2+y^2}}{y} = \frac{\sqrt{5}+1}{2} \rightarrow \frac{n^2+y^2}{y^2} = \frac{\sqrt{5}+1}{2} \Rightarrow r_n^2 + y^2 = y^2 + y^2 \frac{\sqrt{5}+1}{2}$$

$$\Rightarrow r_n^2 \leq y^2 + y^2 \frac{\sqrt{5}+1}{2} \Rightarrow n^2 \leq y^2 \left(\frac{1+\sqrt{5}}{2} \right) \Rightarrow \frac{y^2}{n^2} = \frac{1}{\frac{1+\sqrt{5}}{2}} = \frac{2}{1+\sqrt{5}} = \frac{\sqrt{5}-1}{2}$$

$$r_a + \sqrt{r_a^2 + f_a} = 2 \Rightarrow r_a^2 + f_a = (2 - r_a)^2 \Rightarrow r_a^2 + f_a = 4r_a^2 + f - 4r_a$$

$$\Rightarrow 3r_a^2 + f - 4r_a = 0 \Rightarrow \Delta = 16f$$

$$\Rightarrow \frac{12+12}{16} = \frac{12-12}{16} = \frac{12 \pm 4}{16} = \frac{1}{2} \text{ or } \frac{3}{2} \Rightarrow \frac{a+1}{a} = \frac{5}{2} \Rightarrow \frac{a}{1} = \frac{5}{2} \Rightarrow \frac{a}{1} = \frac{5}{2}$$

$$\frac{\sqrt{n+1} - \sqrt{n-1}}{(1+\sqrt{n-1})(1-\sqrt{n-1})} \leq \frac{-2\sqrt{n-1}}{1-n} \Rightarrow \frac{n-1}{\sqrt{n-1}} \Rightarrow \sqrt{n+1} \times (n-1) \leq (n-1)(1-n)$$

$$\Rightarrow f(n+1) = n^2 - 2r_n - r_n$$

$$\Rightarrow n^2 - 2r_n + 9r_n = 0 \Rightarrow \Delta = 19r_n$$

$$\Rightarrow n = \frac{r_f \pm \sqrt{19r_f}}{2} = 12 \pm \sqrt{19} \rightarrow \boxed{12+\sqrt{19}}$$

$$\sqrt{r_n} = t \Rightarrow \frac{1}{t+r} - \frac{1}{r-t} = \frac{r-n}{\sqrt{r_n}} \Rightarrow \frac{r-t-t-r}{t^2-r^2} = \frac{r-n}{t} \Rightarrow \frac{-2t}{t^2-r^2} = \frac{r-n}{t} \Rightarrow -1 = \frac{r-n}{t^2-r^2}$$

$$t^2 - r^2 = r - n \Rightarrow r - n = 1 \Rightarrow -1 \leq n$$

نکته: در این مرحله باید دقت کرد

$$n = \frac{1}{t} + r \Rightarrow \frac{1}{(\frac{1}{t}+r)^2} - \frac{1}{(\frac{1}{t}-r)^2} = \frac{1}{9} \Rightarrow \frac{\frac{1}{t}+r^2-t+\frac{1}{t}+r^2+t}{(\frac{1}{t}-r^2)r} = \frac{X(\frac{1}{t}+r^2)}{(\frac{1}{t}-r^2)r} = \frac{1}{9}$$

$$\Rightarrow 3r \cdot r^2 - 19r + 11 = 0 \Rightarrow \Delta = 100 \Rightarrow r = \frac{19 \pm 10}{6} \Rightarrow \frac{1}{17} \text{ or } \frac{11}{6} \Rightarrow t \leq \frac{1}{6} \text{ or } \frac{\sqrt{50}}{1}$$

$$\Rightarrow n \leq \frac{1}{t} + r \Rightarrow n \leq \frac{1}{\frac{1}{6}} + \frac{11}{6} = \frac{1}{6} + \frac{11}{6} = \frac{12}{6} = 2$$

- ✓

$\begin{array}{cccc} - & 0 & F & 0 \\ - & + & - & + \end{array}$

9

نقد ایک جواب ← $n=4$

-1

5

$$\bar{A}B = \sqrt{(r+u)^2 + (0-u)^2} = r\sqrt{10}$$

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$$p - n \leq \frac{1}{p} n + r = n + r, \quad p = r$$

9

- 19

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$\Rightarrow$ 2534