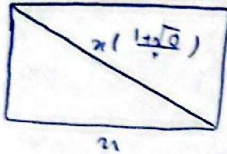


نسبت طلایی = $\frac{1+\sqrt{5}}{2}$

طول جبهه مستطیل = $2\left(\frac{1+\sqrt{5}}{2}\right) = 2(1+\sqrt{5})$

مساحت مستطیل جبهه = $8(1+\sqrt{5})$

نسبت = $\frac{8(1+\sqrt{5})}{20} = \frac{2(1+\sqrt{5})}{5}$



عرض = $21^2 \left(\frac{1+\sqrt{5}}{2}\right)^2 - 21^2 = 21^2 \left(\frac{3+\sqrt{5}}{2}\right) - 21^2$

$\leftarrow 21^2 \left(\frac{1+\sqrt{5}}{2}\right)$

$\frac{\text{طول}}{\text{عرض}} = \frac{x}{x \sqrt{\frac{1+\sqrt{5}}{2}}} \rightarrow \left(\frac{1}{\sqrt{\frac{1+\sqrt{5}}{2}}}\right)^2 = \frac{1}{\frac{1+\sqrt{5}}{2}} = \frac{2}{1+\sqrt{5}} \times \frac{\sqrt{5}-1}{\sqrt{5}-1} = \frac{\sqrt{5}-1}{2}$

$\sqrt{2a^2+fa} = 2-2a \rightarrow |2a^2+fa| = 9a^2+f-12a$

$2a^2+fa = 9a^2+f-12a \rightarrow 7a^2-12a+f=0 \rightarrow \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{12 \pm \sqrt{144}}{14}$

$2a^2+fa = -9a^2-f+12a \rightarrow 11a^2-12a+f=0 \rightarrow \Delta < 0$

$\frac{\frac{2}{\sqrt{5}}+1}{\frac{2}{\sqrt{5}}} = \frac{9}{2}$

$\sqrt{n+1} \left(\frac{-2\sqrt{n-1}}{9-n+1}\right) = \frac{(\sqrt{n-1})^2}{\sqrt{n-1}}$

$\rightarrow 2\sqrt{n+1} = n-1$

$\rightarrow n^2-2n+9=0$

$\rightarrow n = 1 \pm \sqrt{4}$

$\times 12-14$

و مساوی نشدند

$\frac{1}{\sqrt{2-n}+2} - \frac{1}{2-\sqrt{2-n}} = \frac{-2\sqrt{2-n}}{n+2} \rightarrow \frac{-2\sqrt{2-n}}{n+2} = \frac{2-n}{2\sqrt{2-n}}$

$\rightarrow n^2+10n-24=0$ $\left\{ \begin{array}{l} n=2 \rightarrow \text{خرج اصفرا شد} \\ n=-12 \rightarrow \text{ریشه منتهی است} \end{array} \right.$

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

$$\rightarrow t = \dots, \frac{r}{14}, \frac{-r}{14}$$

$\downarrow$ $\downarrow$
 $S_1 = 1$ $S_2 = 1$ $1+1=2$

5

$$\sqrt{x} + \sqrt{-x^r + f_n^r + r\delta(n-f)} + \sqrt{x^r} + \sqrt{-x^r + qn - 1} = n + r$$

$$\downarrow \quad \downarrow$$

$$-x^r(n-f) + r\delta(n-f) \quad - (n-f)(n-r)$$

$$(n-f)(x+a)(n-a)$$

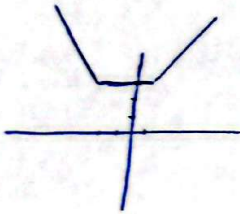
$$\frac{-a}{+} - \frac{f}{+} - \frac{a}{-} \cap \frac{r}{-} + \frac{f}{-} = \boxed{f} \rightarrow \text{المعادلة صحيحة}$$

5

Y

$$y = |x+r| + |x-1| \rightarrow rx+1 \rightarrow rx+1 = \frac{14-n}{r} \rightarrow 4n+r = 14-n \rightarrow n=r$$

$y=5$



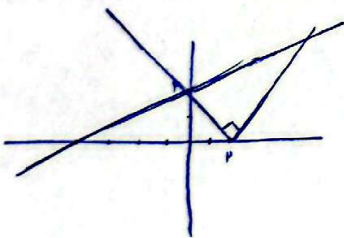
$$\rightarrow -rx-1 \rightarrow -rx-1 = \frac{14-n}{r} \rightarrow -4n-r = 14-n \rightarrow n=-5$$

$y=7$

$$AB = \sqrt{4r^2 + r^2} = \sqrt{5r^2} = \boxed{r\sqrt{5}}$$

5

A



$$y = \sqrt{x^r - fm + f} = \sqrt{(n-r)^r} = |n-r|$$

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

$$\frac{1}{r}x + r = r - x \rightarrow x = 0, y = 2$$

$x = r, y = 0$

$$\frac{1}{r} \begin{vmatrix} 1 & 0 & r \\ 4 & r & 0 \\ 1 & 1 & 1 \end{vmatrix} = \boxed{12}$$

5

9

$$\frac{1}{n} + \frac{1}{n+9} = \frac{1}{r_0} \rightarrow \frac{r_0n+9}{n^r+9n} = \frac{1}{r_0} \rightarrow n^r+9n = r_0n+180$$

$$\rightarrow n^r - r/n - 180 = 0 \rightarrow (n - r_0)(n + 9) = 0$$

$$\hookrightarrow n = \boxed{r_0}$$

5

1.