

۱۳,۷۵

نام و نام خانوادگی: سید مجتبی پاسخنامه تشریحی تکلیف شماره ۱۸ ... کلاس: یازدهم ... B

$$\text{نسبت طلایی} = \frac{1+\sqrt{5}}{2}$$

$$S = 4 \times 5 = 20$$

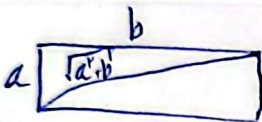
$$S = 4(1+2\sqrt{5}) = 4 + 8\sqrt{5}$$

$$\varepsilon = 4$$

$$\text{طول} = 4\left(\frac{1+\sqrt{5}}{2}\right) = 2+2\sqrt{5}$$

$$\frac{4+8\sqrt{5}}{20} \checkmark$$

(۲)



$$\frac{\sqrt{a^2+b^2}}{b} = \frac{1+\sqrt{5}}{2}$$

$$\sqrt{a^2+b^2} = b(1+\sqrt{5})$$

$$\varepsilon(a^2+b^2) = b^2 + 5b^2 + 2b^2\sqrt{5} \Rightarrow \varepsilon a^2 = 6b^2 + 2b^2\sqrt{5} \Rightarrow a^2 = \frac{6b^2 + 2b^2\sqrt{5}}{\varepsilon}$$

$$\varepsilon a^2 = b^2(6+2\sqrt{5})$$

$$\frac{\varepsilon a^2}{b^2} = 6+2\sqrt{5}$$

$$\varepsilon(a^2+b^2) = b^2(6+2\sqrt{5}) \Rightarrow \frac{a^2+b^2}{b^2} = \frac{6+2\sqrt{5}}{\varepsilon}$$

$$\Rightarrow \frac{a^2}{b^2} + 1 = \frac{6+2\sqrt{5}}{\varepsilon} \Rightarrow \frac{a^2}{b^2} = \frac{5+2\sqrt{5}}{\varepsilon} \checkmark$$

(۲)

$$3a - 2 = \sqrt{2a^2 + 4a} \quad (1) \Rightarrow 9a^2 - 12a + 4 = 2a^2 + 4a \Rightarrow 7a^2 - 16a + 4 = 0$$

$$S = \frac{14}{\sqrt{2}}$$

$$P = \frac{4}{\sqrt{2}}$$

$$x_1 = 2$$

$$x_2 = \frac{2}{\sqrt{2}} \checkmark$$

$$a = \frac{2}{\sqrt{2}} \Rightarrow \frac{a+1}{a} = \frac{\frac{2}{\sqrt{2}}+1}{\frac{2}{\sqrt{2}}} = \frac{2+\sqrt{2}}{2} = \frac{2+\sqrt{2}}{2} \checkmark$$

(۲)

$$\frac{\sqrt{x+1}}{\sqrt{x-1}+2} - \frac{\sqrt{x+1}}{2-\sqrt{x-1}} = \frac{x-1}{\sqrt{x-1}} \xrightarrow{\text{مخرج مشترک}} \frac{(2-\sqrt{x-1})-(\sqrt{x-1}+2)}{(\sqrt{x-1}+2)(2-\sqrt{x-1})}$$

$$= \frac{-2\sqrt{x+1}\sqrt{x-1}}{1-x} = \frac{x-1}{\sqrt{x-1}} \xrightarrow{\text{مخرج را صفری کند}} x_1 = 1 \quad x_2 = 12+4\sqrt{2} \checkmark$$

(۲)

$$\frac{1}{\sqrt{2-x}+2} - \frac{1}{2-\sqrt{2-x}} = \frac{2-x}{5\sqrt{2-x}} \Rightarrow t = \sqrt{2-x}, \quad x < 2$$

$$\frac{1}{t+2} - \frac{1}{2-t} = \frac{t}{5}$$

$$\frac{t(14-t^2)}{5(t^2-4)} = 0 \Rightarrow -t+14t = 5t^2-20 \Rightarrow 13t = 5t^2-20$$

$$t=0 \Rightarrow x=2$$

غیر قابل فزاینده را صفری کند

(۱)

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$$\frac{1 - 2n + n^r + n^r}{(n(1-n))^r} = \frac{2(n^r - n) + 1}{(n - n^r)^r} = \frac{14}{9} \xrightarrow{n^r - n = t} \frac{2t+1}{t^r} = \frac{14}{9}$$

$$14 \cdot t^r - 14t - 9 = 0 \xrightarrow{\text{r=2}} \begin{cases} t = 0,3 \rightarrow n^r - n - 0,3 = 0 \xrightarrow{\Delta} S=1 \\ t = -\frac{r}{14} \rightarrow n^r - n + \frac{r}{14} = 0 \xrightarrow{\Delta} S=1 \end{cases}$$

$$S=2$$

$$y = |x+2| + |x-1|$$

$$\begin{array}{c|c|c} -2 & 1 & \\ \hline -x-2-x+1 & x+2-x+1 & x+2+x-1 \\ \hline -2x-1 & 3 & 2x+1 \end{array}$$

$$(-2, 1) \quad (1, 0)$$

$$\sqrt{x^2+y^2} = \sqrt{4+1} = \sqrt{5}$$

$$3y+x=14 \Rightarrow y = \frac{14-x}{3}$$

$$-2x-1 = \frac{14-x}{3} \Rightarrow -6x-3=14-x \Rightarrow -5x=17 \Rightarrow x = -\frac{17}{5}$$

$$\omega x = -2 \Rightarrow x = -2, y = 1$$

$$y=2 \Rightarrow 3y+x=14$$

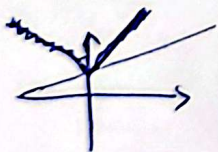
$$9+x=14 \Rightarrow x=5$$

$$-2(x < 1)$$

$$y = 2x+1 \Rightarrow x=2, y=5$$

$$y = \sqrt{x^2 - 2x + 2} \quad , \quad y = \frac{1}{2}x + 2$$

$$\sqrt{x^2 - 2x + 2} = |x-1| \rightarrow \begin{cases} x \geq 1 & y = x-1 = \frac{1}{2}x+2 \Rightarrow x=4, y=3 \\ x < 1 & y = 2-x = \frac{1}{2}x+2 \Rightarrow x=0, y=2 \end{cases}$$



$$\frac{1}{x} + \frac{1}{x+9} = \frac{1}{5} \Rightarrow \frac{x+x+9}{x(x+9)} = \frac{1}{5} \Rightarrow \frac{2x+9}{x^2+9x} = \frac{1}{5}$$

$$\Rightarrow 5 \cdot x + 18 = x^2 + 9x \Rightarrow x^2 - 4x - 18 = 0$$

$$\begin{cases} S=11 \\ P=-18 \end{cases} \Rightarrow \begin{cases} x_1 = 9 \\ x_2 = -2 \end{cases}$$

$$(3, 4) \checkmark$$

$$\frac{2 - \sqrt{2-n} - \sqrt{2-n} - 2}{4 - (2-n)} = \frac{-2\sqrt{2-n}}{2+n} = \frac{2-n}{5\sqrt{2-n}}$$

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مخرج دو صفر میبند!

طرفین و بطن

$$\rightarrow -10(2-n) = 4-n^2 \rightarrow n^2 + 10n - 24 = 0 \rightarrow \begin{cases} n=2 \\ n=-12 \end{cases}$$

معادله ریسه ها قیما رو می خواد!

۷ بررسی دافنه ها :

$$۱) -n^3 + 4n^2 + 25n - 100 \geq 0 \rightarrow -(n-4)(n-5)(n+5) \geq 0$$

$$\begin{array}{ccc} -5 & 4 & 5 \\ + & | - & | + & | - \end{array}$$

$$n \in (-\infty, 5] \cup [4, 5]$$

$$۲) -n^2 + 4n - 8 \geq 0 \rightarrow n \in [2, 4]$$

$$۳) n \geq 0 \rightarrow n \geq 0$$

۴) زیر رادیکال دوم معادله مثبت

$$۵) n+2 \geq 0 \rightarrow n \geq -2$$

جواب رادیکال

n

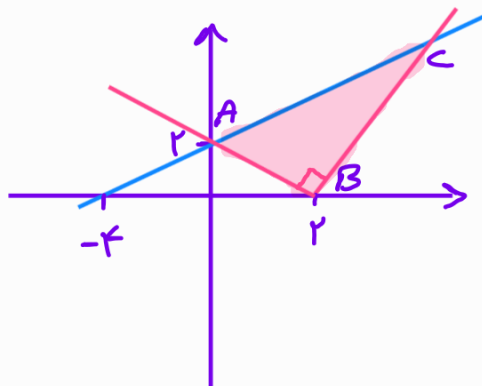
$$n=4$$

در معادله صدق می کند
و مقدارش ۶ است ✓

$$y = \sqrt{n^2 - 4n + 4} = |n-2|$$

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

$$\rightarrow C(4, 4)$$



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$$AB = 2\sqrt{2} \quad BC = 4\sqrt{2} \rightarrow S = \frac{2\sqrt{2} \times 4\sqrt{2}}{2} = 12$$