نام و نام خانوادگی: هستی صدری | پاسخنامه ریاضی تکلیف شماره ۱۸ | کلاس یازدهم تجربی A

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$\frac{x}{y}=\frac{5}{4} \rightarrow x=\frac{5}{4}y$

$\frac{x+\beta}{y}=\frac{1+\sqrt{5}}{2} \rightarrow x+\beta=\frac{1+\sqrt{5}}{2}y$

$\frac{S_{\square\ \text{طلایی}}}{S_{\square\ \text{اول}}}=\frac{x_2y_2}{x_1y_1}=\frac{\frac{1+\sqrt{5}}{2}\cancel{y^2}}{\frac{5}{4}\cancel{y^2}}=\frac{2+2\sqrt{5}}{2}$

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x, y, $\sqrt{x^2+y^2}$

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

$\xrightarrow{()^2} \frac{3+\sqrt{5}}{2}x^2=x^2+y^2 \rightarrow y^2=\frac{1+\sqrt{5}}{2}x^2 \rightarrow \frac{x^2}{y^2}=\frac{\cancel{x^2}}{\frac{1+\sqrt{5}}{2}\cancel{x^2}}=\frac{\sqrt{5}-1}{2}$

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$3a+\sqrt{\underbrace{2a^2+4a}_{2a(a+2)}}=2 \rightarrow \sqrt{2a(a+2)}=2-3a \xrightarrow{()^2} 2a^2+4a=4+9a^2-12a$

$\rightarrow 7a^2-16a+4=0 \Rightarrow a=\frac{2}{7}\ ,\ 2 \rightarrow \frac{a+1}{a}=\frac{3}{2}=\boxed{1.5}$

$\rightarrow \frac{a+1}{a}=\frac{\frac{9}{7}}{\frac{2}{7}}=\boxed{4.5}$

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$\frac{\sqrt{x+1}}{3+\sqrt{x-1}}-\frac{\sqrt{x+1}}{3-\sqrt{x-1}}=\frac{\cancel{3\sqrt{x+1}}-2\sqrt{x^2-1}-\cancel{3\sqrt{x+1}}}{10-x} \sim \frac{-2\sqrt{x^2-1}}{10-x}=\frac{x-1}{\sqrt{x-1}}$

$\sqrt{x-1}$

$\rightarrow -2(\cancel{\sqrt{x-1}})(\sqrt{x+1})=(10-x)(\cancel{\sqrt{x-1}}) \rightarrow x-10=2\sqrt{x+1}$

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$\frac{1}{2+\sqrt{2-x}}-\frac{1}{2-\sqrt{2-x}} \Rightarrow \frac{-2\sqrt{2-x}}{4+x}=\frac{2-x}{5\sqrt{2-x}}$

$-10(2-x)=4-x^2 \rightarrow x^2-10x-24=0 \rightarrow (x+12)(x-2)$

-12 ، 2 غ ق ق

معادله ریشه ندارد

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$$\frac{1}{x^2}+\frac{1}{(1-x)^2}=\frac{160}{9} \rightarrow \Big(\underbrace{\frac{1}{x}+\frac{1}{x-1}}_{\frac{1}{x(x-1)}=t}\Big)^2-2\Big(\underbrace{\frac{1}{x(1-x)}}_{t}\Big)=\frac{160}{9}$$

$$\rightarrow t^2-2t=\frac{160}{9} \xrightarrow{+1} t^2-2t+1=\frac{169}{9} \rightarrow (t-1)^2=\frac{169}{9} \rightarrow t-1=\pm\frac{13}{3}$$

$t=\frac{16}{3}$ یا $\frac{-10}{3}$

$\frac{1}{x(1-x)}=\frac{16}{3} \rightarrow -x^2+x=\frac{3}{16} \rightarrow S_1=1$

$\frac{-3}{10}=-x^2+x$

$\rightarrow S_1+S_2=\boxed{2}$

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$x+2\geq 0 \rightarrow \boxed{x\geq -2}$ (1) , $-x^2+6x-8\geq 0 \rightarrow x^2-6x+8\leq 0 \rightarrow (x-2)(x-4)\leq 0$

(2) $\boxed{\rightarrow 2\leq x\leq 4}$, $-x^3+4x^2+25x-100 \rightarrow -x^2(x-4)+25(x-4)=0$

$(x-4)(-x^2+25)\geq 0 \rightarrow$

-5	4	5
$+$ $-$	$+$	$-$

$\rightarrow \boxed{(-\infty,-5]\cup[4,5]}$ (3)

$1\cap 2\cap 3 \rightarrow 4 \sim$ ۱ جواب دارد

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$y=|x+2|+|x-1|$, $3y+x-17=0 \rightarrow y=\frac{17-x}{3}$

رسم

A) $\frac{17-x}{3}=2x+1 \rightarrow x=2 \sim y=5$

B) $\frac{17-x}{3}=-2x-1 \rightarrow x=-4 \sim y=7$

$\rightarrow \sqrt{(2+4)^2+(5-7)^2}=AB$

$=\sqrt{40}=2\sqrt{10}$

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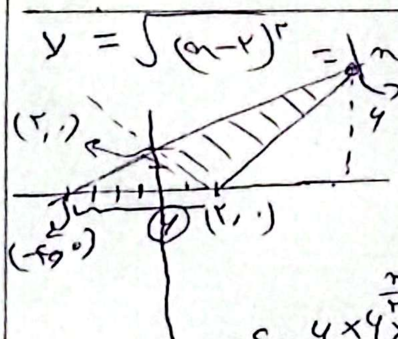
$y=\sqrt{(x-2)^2}=|x-2|$, $y=\frac{1}{2}x+2 \rightarrow 2y=x+4$



$\frac{x+4}{2}=|x-2| \sim \frac{x}{2}+2=x-2 \rightarrow x=8 \sim y=6$

$\frac{x}{2}+\cancel{2}=\cancel{2}-x \rightarrow x=0 \sim y=2$

$S=6\times 6\times\frac{1}{2}=18$

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$B\sim x$, $F\sim x+9 \rightarrow \frac{1}{x}+\frac{1}{x+9}=\frac{1}{20}$

$\frac{2x+9}{x^2+9x}=\frac{1}{20} \rightarrow 40x+180=x^2+9x \rightarrow x^2-31x-180=0$

$(x-36)(x+5)=0 \rightarrow x=\boxed{36}$ یا -5

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