۱۴,۲۵

نام و نام خانوادگی .... پاسخنامه تشریحی تکلیف شماره ... کلاس ....

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$x-1=\frac{-1}{x-1} \to -(x-1)^2 = -1$ غ ق ق

$x-1=\frac{1}{x-1} \to (x-1)^2=1 \xrightarrow{\sqrt{}} |x-1|=1 \to x=2$ یا 0 غ ق ق $\to$ ۱ ریشه دارد

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الف) $-2<\frac{2x-1}{x}<2 \xrightarrow{\times x} -2x<2x-1<2x \to -2x<2x-1$

$\underbrace{2x-1<2x}_{\text{همواره صحیح}}$

$1<4x$

$\boxed{\frac{1}{4}<x}$

۱,۷۵

ب) $\left|\frac{x-2}{2x+1}\right|>1 \to \frac{x-2}{2x+1}>1 \to \frac{-x-3}{2x+1}>0$ $\to \emptyset$ یا

$\frac{x-2}{2x+1}<-1 \to \frac{3x-1}{2x+1}<0$

$x\in(-3,-\frac{1}{2})(-\frac{1}{2},\frac{1}{3})$

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$|x-\alpha|<\beta \to -\beta<x-\alpha<\beta$

$x^2<x+6 \to x^2-x-6<0 \to \boxed{-2<x<3}$

$-x^2>x+6 \to x^2+x+6<0$ ریشه ندارد

$3-\alpha=\beta$

$-2-\alpha=-\beta$

$1-2\alpha=0$

$\boxed{\alpha=\frac{1}{2}}$

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$x=-1 \to -2+3=1$

$x=0 \to 1+2=\boxed{3}$ max

$x=2 \to 3-4=\boxed{-1}$ min

$\text{min}+\text{max}=\boxed{2}$

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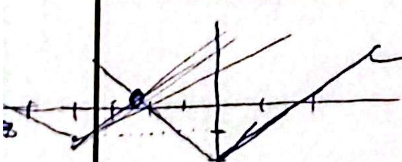

$\left|\frac{1}{2}x\right|-2$

$\left|\frac{1}{2}x+4\right|-1$

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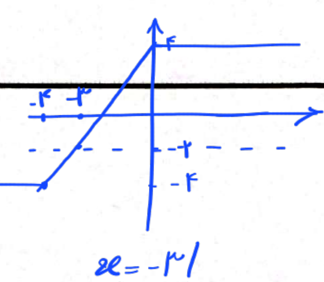
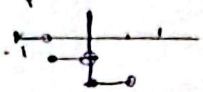
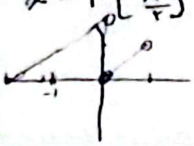
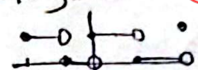
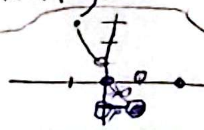
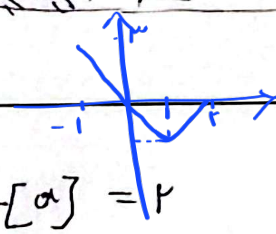
$y'=\left|\frac{1}{2}x+2\right|-1=y$

$|x+4|-|x|=-2$



$x=-3$

الف) $[\,|1-x|-|x+2|\,] \sim$ $-2 \quad 1$ / $1 \quad 5 \quad |x-2|-5$ $x\in[-5,5], x\in\mathbb{Z} \to -5,-4,-3,-2,-1,0,1,2,3,4,5$ ب) $f(x)=\frac{1}{x}-[\underbrace{\frac{x+1}{x}}_{1+\frac{1}{x}}] = \frac{1}{x}-[\frac{1}{x}]-1$, $0\le \frac{1}{x}-[\frac{1}{x}]<1 \xrightarrow{-1}$ $-1\le \frac{1}{x}-[\frac{1}{x}]-1<0$ 5	۶
الف) $y=[-2x]-1$ $x\in(-1,1)$ $-\frac{1}{2}<x<0 \xrightarrow{\times -2} 1>-2x>0 \xrightarrow{[\,]} [-2x]=0$ $\sim [-2x]-1=-1$  $0\le x<\frac{1}{2} \xrightarrow{\times -2} 0\ge -2x>-1 \xrightarrow{[\,]} [-2x]=-1$ $\sim [-2x]-1=-2$ ب) $x-2[\frac{x}{2}]$ $x\in(-2,2)$  $-2<x<0 \to -1<\frac{x}{2}<0 \xrightarrow{[\,]} x+2$ $0\le x<2 \to 0\le \frac{x}{2}<1 \to x$ 5	۷
الف) $[\,||x|-1|\,] \xrightarrow{-2\le x<0} [\,|-x-1|\,] \sim x\in[-2,-1) \to [-x-1]=1$ $x\in[-1,0) \to [x+1]=0$ $0\le x<2 \to [\,|x-1|\,] \to 0\le x<1 \to [1-x] \sim 1$  $1\le x<2 \sim 0, 1$ ب) $-1<x<0$, $0\le x<1$, $1\le x<2$   0.5	۸
$\begin{cases} a+[b]=4/2 \\ b-[a]=2/4 \end{cases} \sim [b]-[a]=2$ $a+b+\underbrace{[b]-[a]}_{2}=6/6 \to a+b=4/6$ 5	۹
$(1+\sqrt{2})^6+(1-\sqrt{2})^6=198 \to (1+\sqrt{2})^6=198-(1-\sqrt{2})^6$ $\xrightarrow{[\,]} [(1+\sqrt{2})^6]=[\underbrace{198-(\overset{-0/4}{1-\sqrt{2}})^6}_{197}]$ 5	۱۰