نام و نام خانوادگی ...آتریا کریمی... پاسخنامه تشریحی تکلیف شماره ..۸.. کلاس ..یازدهم دختر B..

۱

~~$g=\{(-1,1),(0,4),(2,0),(1,2)\}$~~

$f(x)=\sqrt{1-x^2}$ $\{(2,0),(1,4)\}$

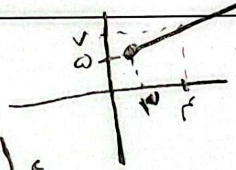
$3f=\{(-1,0),(0,\cancel{3\sqrt{-15}}),(2,3),(1,\cancel{3\sqrt{-15}})\}$ تعریف نشده تعریف نشده

$2g=\{(-1,2),(0,8),(2,0),(1,4)\}$

$2g-3f=\{(-1,2),(2,-3)\}$

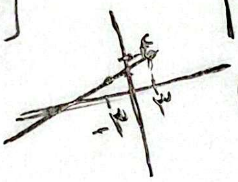
۲

$f(x)=2x-1 \rightarrow D_f=[3,+\infty)$



$R_f=[5,+\infty)$

$g(x)=\frac{1}{3}x+3 \rightarrow D_g=(-\infty,3]$



$R_g=(-\infty,4]$

$R_f \cup R_g = R-(4,5)$

۳

$y=\frac{-x^2}{2}+x+3 \quad \frac{-b}{2a}=\frac{-1}{-1}=1 \xrightarrow{x=1} y=\frac{-1}{2}+1+3=\boxed{\frac{7}{2}}$

$R_y=(-\infty,\frac{7}{2}]$

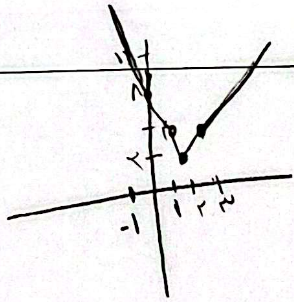
$(\frac{3}{2},\frac{7}{2})$ $\quad b=\frac{7}{2}, a=\frac{3}{2}$

$\sqrt{\frac{7}{2}-\frac{3}{2}}=\sqrt{\frac{4}{2}}=\boxed{\sqrt{2}}$

۴

$y=|x-1|+|x-3|+|2x-4|$

x	-1	0	1	2	3
y	12	8	4	2	4



$\boxed{2}$ = کمترین مقدار

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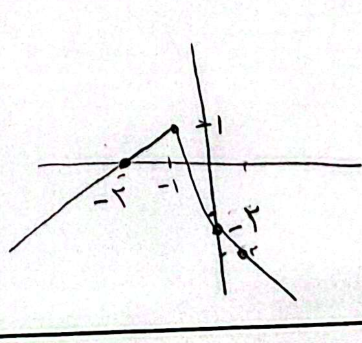
$y=|x|-2|x+1|$

x	-2	-1	0	1
y	0	1	-2	-3



$R_y=(-\infty,1]$

$$y=\frac{x^2+ax+m}{x+1} \rightarrow yx+y=x^2+ax+m$$

$$x^2+(a-y)x+m-y<0$$

$$(a-y)^2-4(m-y)\geqslant 0$$

$$25-10y+y^2-4m+4y\geqslant 0$$

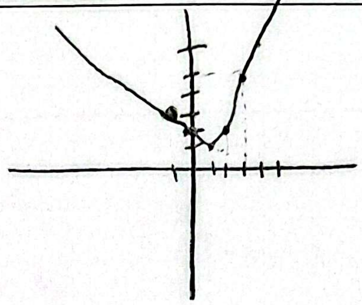
$$y^2-6y+25-4m\geqslant 0$$

$$36-4(25-4m)<0$$

$$-64+16m<0 \qquad 16m<64 \qquad m<4 \qquad m\neq 4$$

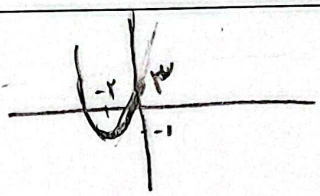
برای m ۳ عدد طبیعی ۱، ۲، ۳ 6

$$f(x)=\begin{cases} x+2 & x\geqslant 3 \\ x^2-2x+2 & 0\leqslant x<3 \\ |x|+2 & x<0 \end{cases}$$



$$R_f=[1,+\infty)$$ 7

$$f(x)=\begin{cases} x^2+4x+3 & x\leqslant 0 \\ [2x]-2x & x>0 \end{cases} \longrightarrow$$



$$-1<[2x]-2x\leqslant 0$$ 8

$$(-1,0]\cup[-1,+\infty)=[-1,+\infty)$$

$$y=a+1-\sqrt{2x+3}$$

$$D_f=\quad 2x+3\geqslant 0,\quad 2x\geqslant -3,\quad x\geqslant \frac{-3}{2} \Rightarrow b=\frac{-3}{2}$$

$$D_y=[b,+\infty)$$

$$R_y=(-\infty,5] \xrightarrow{x=\frac{-3}{2}} a+1-\sqrt{2(\tfrac{-3}{2})+3}=5 \Rightarrow a+1=5,\quad a=4$$ 9

$$ab=4\times\frac{-3}{2}=-6$$

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$$f(x)+g(x)=3\sqrt{2+2\sqrt{1-x^2}} \to \sqrt{2+2\sqrt{1-x^2}}$$

$$=\sqrt{\underbrace{(\sqrt{1+x})^2}_{a^2}+\underbrace{(\sqrt{1-x})^2}_{b^2}+\underbrace{2\sqrt{1-x^2}}_{2ab}}$$

$$\Rightarrow \sqrt{(\sqrt{1+x}+\sqrt{1+x})^2} \Rightarrow \sqrt{1+x}+\sqrt{1-x}=\sqrt{2+2\sqrt{1-x^2}}$$

$$\Rightarrow f(x)+g(x)=3(\sqrt{1-x}+\sqrt{1+x}) \Rightarrow \frac{f(x)}{3}+\frac{g(x)}{3}$$

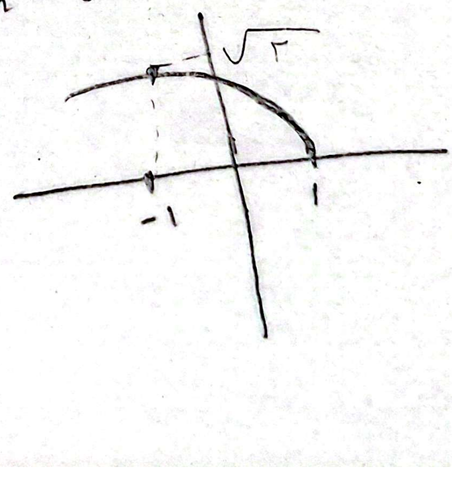
$$=\sqrt{1+x}+\sqrt{1-x} \qquad \frac{3f(x)}{9}=\frac{3}{9}\times 2(\sqrt{1+x}+3\sqrt{1-x})$$

$$\Rightarrow \frac{f(x)}{3}=\sqrt{1+x}+\sqrt{1-x}-\frac{g(x)}{3}$$

$$\frac{2f(x)}{9}-\frac{3}{9}f(x)=\sqrt{1+x}+\sqrt{1-x}-\frac{g(x)}{3}-(\sqrt{x+1}+2\sqrt{1-x})$$

$$(\sqrt{x+1}+2(\sqrt{1-x}-\sqrt{1+x}-\sqrt{1-x}$$

$$\frac{f(x)}{9}-\frac{g(x)}{3}=$$



$$\Rightarrow \frac{f(x)}{9}-\frac{g(x)}{3}=\sqrt{1-x}$$

$$R=[0,\sqrt{2}]$$