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

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$f(x)=\sqrt{1-x^2} \Rightarrow 1-x^2\geq 0 \Rightarrow x^2=1 \Rightarrow x=\pm 1 \rightarrow$

$D_f=[-1,1] \Rightarrow (-1,0),(0,1),(1,0)$

$\Rightarrow 2g-3f \Rightarrow (-1,2),(0,3),(1,-1) \Rightarrow R_f=\{-1,2,3\}$

$3+2-1=1$

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$f(x)=\sqrt{x-1} \Rightarrow D_f=[1,+\infty) \Rightarrow x=2 \Rightarrow y=0 \rightarrow R_f=[0,+\infty)$

$g(x)=\frac{1}{2}x+3 \Rightarrow D_f=(-\infty,2] \Rightarrow x=2 \Rightarrow y=4 \Rightarrow R_g=(-\infty,4]$

$R_f \cup R_g \Rightarrow (-\infty,4] \cup [0,+\infty)$

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$\frac{-x^2}{4}+x+3=\frac{1}{3} \Rightarrow -x^2+4x+9=3 \Rightarrow x^2-4x-6=0$

$\Rightarrow x^2-2x-3=0 \Rightarrow (x-3)(x+1) \Rightarrow x=3 \quad x=-1$

$(-1,3) \Rightarrow b-a \Rightarrow \sqrt{3-(-1)} \Rightarrow 2$

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$f(x)=|x-1|+|x-2|+|2x-4| \Rightarrow x=1,2 \Rightarrow$

$x\leq 1 \Rightarrow 1-x+2-x+4-2x \Rightarrow 7-4x$

$1\leq x\leq 2 \Rightarrow x-1+2-x+4-2x \Rightarrow 5-2x \Rightarrow x=1 \Rightarrow 7-4=3$

$x\geq 2 \Rightarrow x-1+x-2+2x-4 \Rightarrow 4x-7 \Rightarrow x=2 \Rightarrow 8-7=1$

$\min\{3,2,1\} \Rightarrow$ more min $=2$

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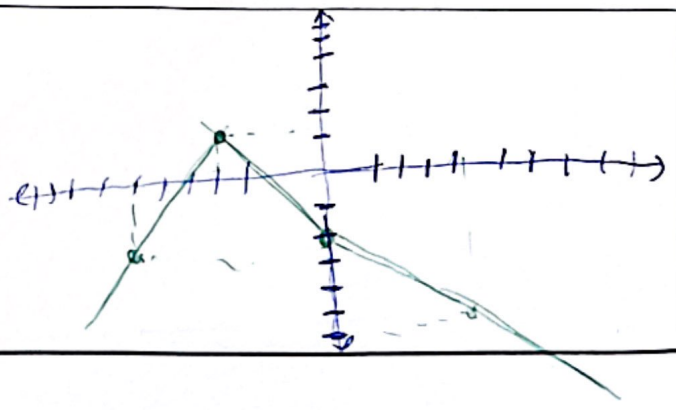
$y=|x|-2|x+1|$

$\Rightarrow f(x)=\begin{cases} x+2 & x<-1 \\ -3x-2 & -1\leq x<0 \\ -x-2 & x\geq 0 \end{cases}$



$R_f=(-\infty,1]$

$\frac{x^2+mx+m}{x+1} \Rightarrow x+3+\frac{m-3}{x+1} \Rightarrow m=3 \Rightarrow R_f=\mathbb{R}$ $m=3 \Rightarrow x+3 \Rightarrow R_f=\mathbb{R}-\{-1\}$ $\Rightarrow m<3 \Rightarrow 1$ و 2 و $3 \Rightarrow$ سه عدد طبیعی $m>3 \Rightarrow$ بی‌شمار عضو از اعداد طبیعی نیز هست	۶
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	۸
$y=x+1-\sqrt{2x+3} \Rightarrow x=b \Rightarrow 2b+c=0 \Rightarrow 2b=-c \Rightarrow b=-\frac{3}{2}$ $\Rightarrow a+1=0 \Rightarrow a=-1 \Rightarrow a+b=-\frac{3}{2}-1=-\frac{5}{2}$	۹
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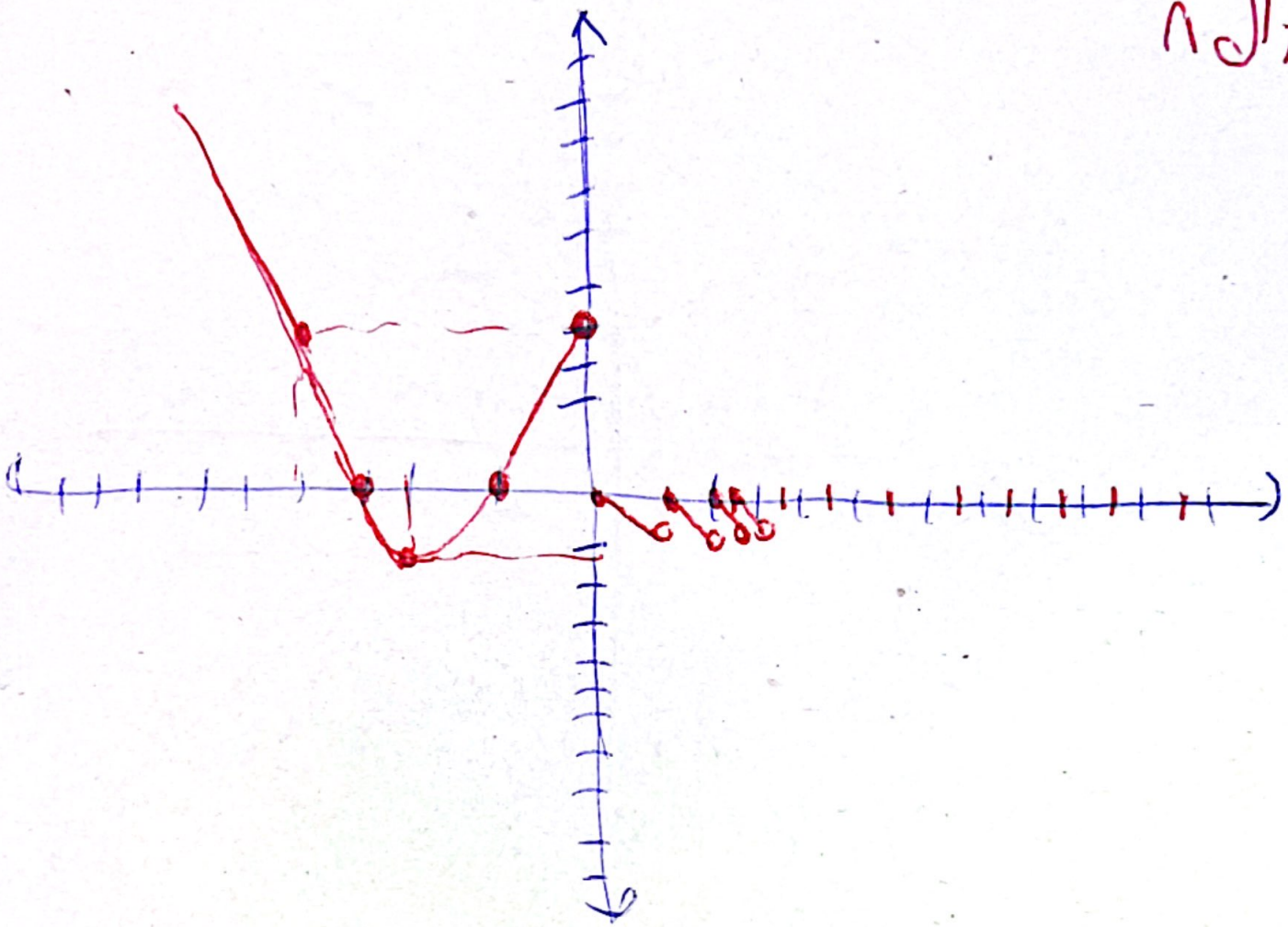
سؤال ٨



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

$x^2 + 4x + 3 \Rightarrow x \leq 0$

$x = 0 \Rightarrow y = 3$

$x = -1 \Rightarrow 1 - 4 + 3 = y = 0$

$x = -2 \Rightarrow 4 - 8 + 3 \Rightarrow y = -1$

$x = -3 \Rightarrow 9 - 12 + 3 = y = 0$

$x = -4 \Rightarrow 16 - 16 + 3 = y = 3$

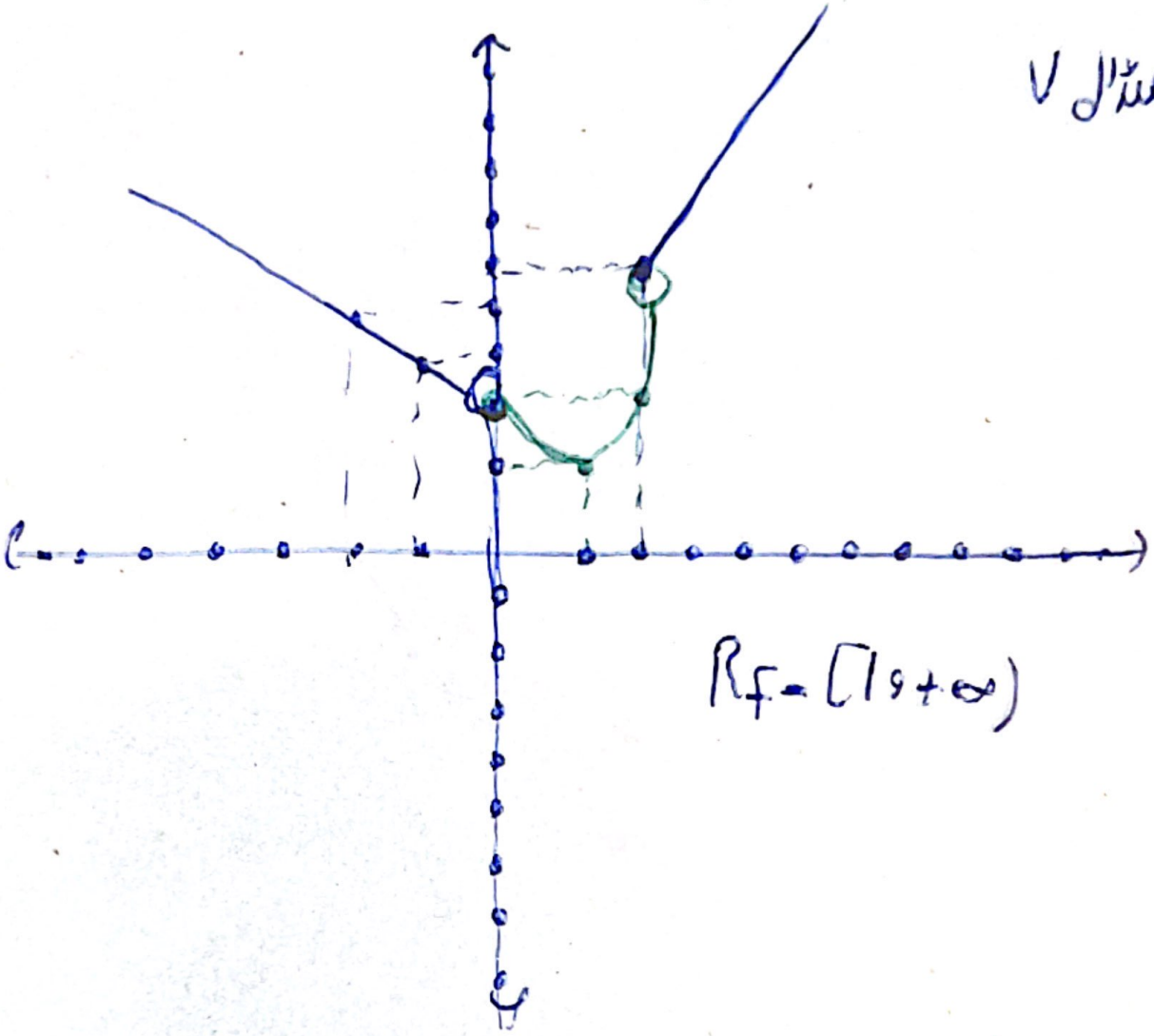
$[2x] - 2x \quad x \geq 0$

$[0, 0.5) \Rightarrow [0, 1)$

$[0.5, 1) = [0, 1)$

$[1, 1.5) = [0, 1)$ و هكذا

سؤال ٧



$R_f = [1, +\infty)$

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