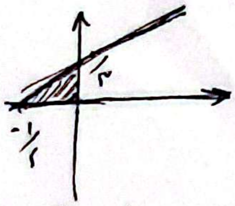
نام و نام خانوادگی ..[illegible].. پاسخنامه تشریحی تکلیف شماره ...۱۰... کلاس ..دوازدهم ریاضی B..

۱

$y=\frac{3x-1}{2} \Rightarrow x=\frac{3y-1}{2} \Rightarrow y^{-1}=\frac{2x+1}{3}$



$\Rightarrow \frac{\frac{1}{2}\times\frac{1}{3}}{2}=\frac{1}{12} \Rightarrow S$

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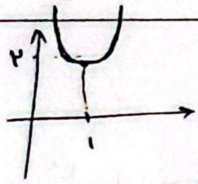
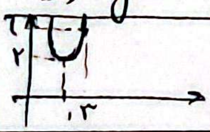
الف)



$R_y=[2,+\infty)=D_{y^{-1}}$ $\quad y=(x-1)^2+2 \Rightarrow x=(y-1)^2+2 \Rightarrow \sqrt{x-2}+1$

$\Rightarrow y^{-1}=\sqrt{x-2}+1,\ D_{y^{-1}}=[2,+\infty)$

ب)



$R_y=[6,+\infty)=D_{y^{-1}} \Rightarrow y^{-1}=\sqrt{x-2}+1$

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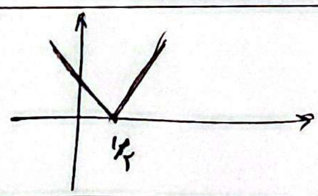
$\sqrt{4(2x-1)^2}=|2(2x-1)| \Rightarrow |4x-2|$



$R_y=[0,+\infty)=D_{y^{-1}}$ $\quad y=4x-2\ [0,+\infty)$

$y^{-1} \Rightarrow x=4y-2 \Rightarrow \boxed{\frac{x+2}{4}=y^{-1}\quad D_{y^{-1}}=[0,+\infty)}$

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$-x^2+6x+2k=x^2-4x+k \Rightarrow 2x^2-10x-2k=0$

$100-4(2k)(2)<0 \Rightarrow 100-16k<0 \Rightarrow 100<16k \Rightarrow k>\frac{100}{16}$

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$$\begin{cases} x<0 \Rightarrow 2x \\ x\geq 0 \Rightarrow 4x \end{cases} \Rightarrow 2y=x \Rightarrow y^{-1}=\frac{x}{2}$$

$$\Rightarrow 4y=x \Rightarrow y^{-1}=\frac{x}{4} \Rightarrow y^{-1}=\frac{3}{8}x-\frac{1}{8}|x|$$

$$\Rightarrow a=\frac{3}{8} \quad b=-\frac{1}{8} \Rightarrow ab=-\frac{3}{64}$$

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$$\frac{6+4}{2+m}=-10 \Rightarrow 2+m=-1 \Rightarrow m=-3$$

$$\Rightarrow f(x)=\frac{3x+4}{x-3}=\frac{3x-9+13}{x-3}=3+\frac{13}{x-3}=y$$

$$f^{-1}(x) \Rightarrow 3+\frac{13}{y-3}=x \Rightarrow x-3=\frac{13}{y-3} \Rightarrow \frac{1}{x-3}=\frac{y-3}{13} \Rightarrow y-3=\frac{13}{x-3} \Rightarrow y=\frac{13}{x-3}+3$$

$$\Rightarrow \frac{3x+4}{x-3}=y^{-1} \Rightarrow$$

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$$\frac{5x-13}{1-x} \Rightarrow \frac{13-5(-x)}{1-(-x)}=\frac{13+5x}{1+x} \Rightarrow \frac{13+5(x-2)}{1+(x-2)}=\frac{5x+3}{x-1}-3$$

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

$$\Rightarrow S=\frac{-b}{a}=\frac{-3}{-1}=3$$

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