نام و نام خانوادگی سیده [illegible] طاها .... پاسخنامه تشریحی تکلیف شماره ۷ کلاس دوازدهم دختر - A

۱

$y=-\frac{1}{3}x^2+\frac{2}{5}x+1 \longrightarrow x_s=4,\ y_s=3$

$a=-\frac{1}{3}$ پس معادله‌ی آن به صورت زیر است:

$-\frac{1}{3}(x-x_s)^2+y_s=-\frac{1}{3}(x-4)^2+3$

$-\frac{1}{3}(x-4)^2+3=0 \Rightarrow (x-4)^2=9 \rightarrow x-4=3 \rightarrow x=7$

$\searrow x-4=-3 \Rightarrow x=1$

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$f(x)=a(x+1)(x-3) \xrightarrow{(1,4)} f(x)=-x^2+2x+3$

$f(3x+2)=-(3x+2)^2+2(3x+2)+3=-(9x^2+12x+4)+6x+4+3$

$f(3x+2)=-9x^2-6x+3 \qquad 2f(3x+2)=-18x^2-12x+6$

$1-2f(3x+2)=18x^2+12x-5$

$x_s=\frac{-b}{2a}=\frac{-12}{36}=\frac{-1}{3} \qquad y_s=18\times\frac{1}{9}+12\times\left(-\frac{1}{3}\right)-5=-7 \qquad \alpha\beta=\frac{-1}{3}\times-7=\frac{7}{3}$

$2-4-5$

۳

$y=3-\sqrt{2x} \longrightarrow y=3-\sqrt{2(x+1)} \Rightarrow y=3-\sqrt{2x+2} \longrightarrow y=\sqrt{2x+2}-3$

$y=\sqrt{2x+2}+2 \qquad \sqrt{2x+2}+2=\frac{7}{2} \Rightarrow \sqrt{2x+2}=\frac{3}{2} \Rightarrow$

$2x+2=\frac{9}{4} \Rightarrow 2x=\frac{1}{4} \Rightarrow x=\frac{1}{8}$

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$D_{f(x)}=(a,4] \longrightarrow D_{f(x-1)}=(a+1,5]$

$D_{g(x)}=[-1,b) \rightarrow D_{f(x+1)}=[-2,b-1)$

$(a+1,5]\cap[-2,b-1)=(-2,5)$

$a+1=-2 \Rightarrow a=-3$

$b-1=5 \Rightarrow b=6 \qquad a-b=-9$

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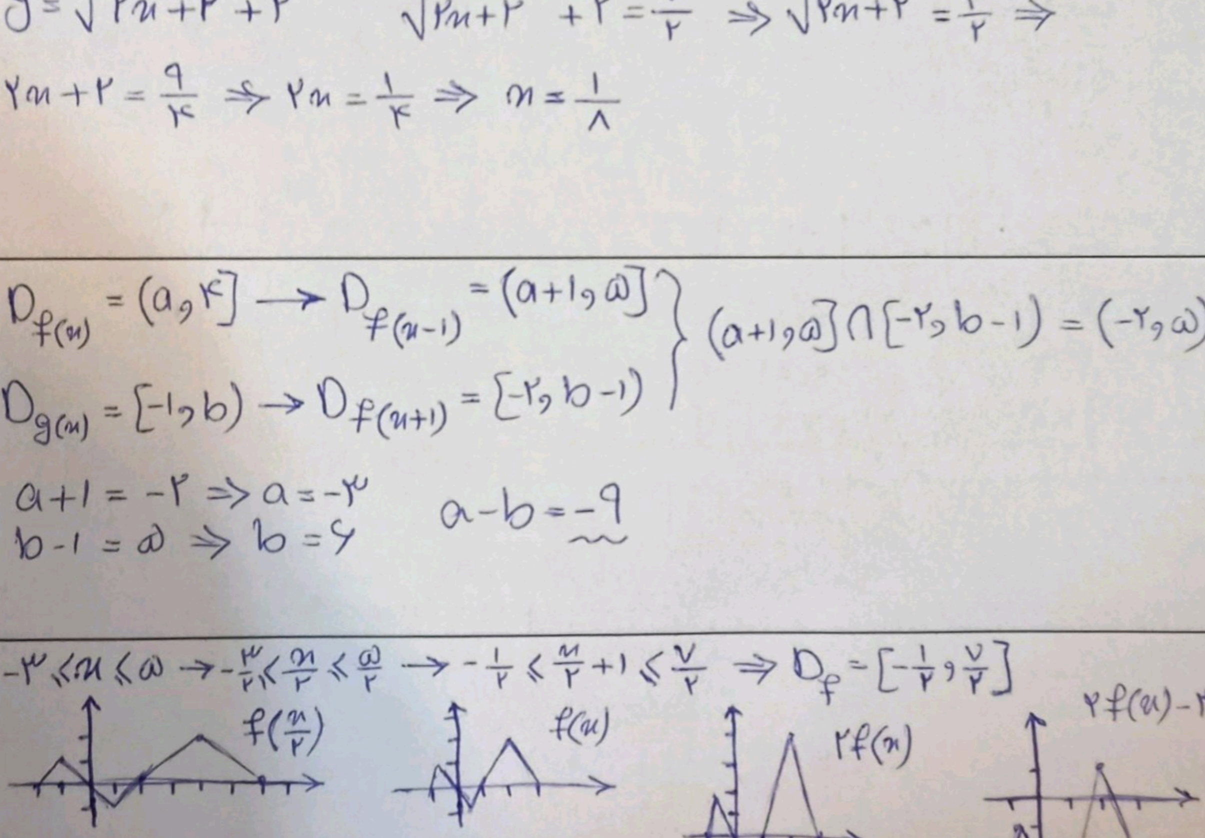
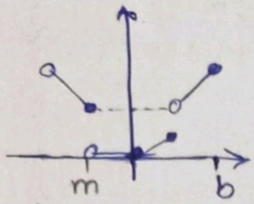
$-3\leq x\leq 5 \rightarrow -\frac{3}{2}\leq\frac{x}{2}\leq\frac{5}{2} \rightarrow -\frac{1}{2}\leq\frac{x}{2}+1\leq\frac{7}{2} \Rightarrow D_f=\left[-\frac{1}{2},\frac{7}{2}\right]$



$R_f=\sqrt{[0,5]}=[0,\sqrt{5}]$



$y=\frac{x}{a}[ax]$

$(m,0)$

$\frac{m}{a}[am]=\frac{1}{4}$ ① $(m,0)\Rightarrow [am]=0$ $0\le ax<1 \Rightarrow ax\in[0,am)$ ۶

$-\frac{x}{2}[-2x]$ $\Rightarrow am=1$ ②   ①,② $\Rightarrow \frac{m}{a}=\frac{1}{4} \Rightarrow \cancel{a}=4m \Rightarrow m=\pm\frac{1}{2}$

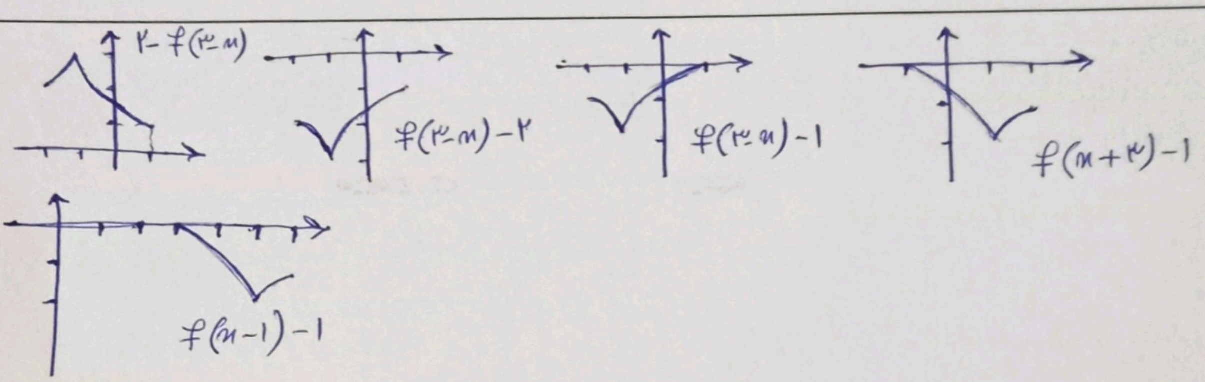
$\underbrace{\frac{1}{m}}$

$0\le x<\frac{1}{2}$ $m=-\frac{1}{2}$

$\frac{1}{2}\le x<\underbrace{1}_{b}$ ← دومین بازه $a=-2$ $b=1$ $b-a=\underline{3}$ m عدد منفی است پس $+\frac{1}{2}$ غ ق ق است

$f(x)=\log_2 x \rightarrow \log_2(x+2) \rightarrow -\log_2(x+2) \rightarrow -\log_2(x+2)+3 \rightarrow -\log_2(-x+2)+3$

$g(-14)+g(-62)=\underbrace{-\log_2 16}_{-4}+3\underbrace{-\log_2 64}_{-6}+3=\underline{-4}$ ۷

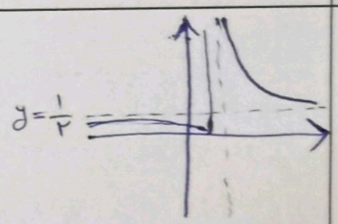


۸

$\left|\frac{x+1}{2x+1}\right| \rightarrow \left|\frac{x-1}{2x-3}\right| \rightarrow \left|\frac{x-1}{2x-3}\right|+1$ $\left|\frac{x-1}{2x-3}\right|+1+x<0$

$1 \quad \frac{3}{2}$: $+ \mid - \mid +$ $\frac{x-1}{2x-3}+1+x<0$ $\frac{x-1+2x^2-x-3}{2x-3}<0$ ۹

$\frac{2x^2-4}{2x-3}<0$ $-\sqrt{2} \quad \sqrt{2} \quad \frac{3}{2}$: $- \mid + \mid - \mid +$ $\Rightarrow (-\infty,-\sqrt{2}]$



$\sqrt{28f(x)-f^2(x)}$ $28f(x)-f^2(x)\ge 0 \Rightarrow 28f(x)\ge f(x)f(x) \xrightarrow{f(x)>0} 28\ge f(x)$

و $f(x)$ نمی‌تواند منفی باشد زیرا $28f(x)$ منفی و $f^2(x)$ مثبت می‌شود و $\ominus > \oplus \Rightarrow$ غ ق ق

$28\ge f(x) \Rightarrow x=0,1,2$ $\underline{3}$ عدد صحیح ۱۰

$f(x)=\frac{27}{8}(x-2)^3+27$ $28=\frac{27}{8}(x-2)^3+27 \Rightarrow 1=\frac{27}{8}(x-2)^3 \Rightarrow \frac{8}{27}=(x-2)^3$

$(x-2)=\frac{2}{3} \Rightarrow x=\frac{8}{3}$