نام و نام خانوادگی ......[illegible]...... **پاسخنامه تشریحی تکلیف شماره ..۳.. کلاس ..یازدهم تجربی..........**

الف) $y=\dfrac{x+3}{2x^3+3x^2-8x+3}=\dfrac{x+3}{(x-1)(2x^2+5x-3)}=\dfrac{x+3}{(x-1)(x+3)(2x-1)} \rightarrow (x-1)(x+3)(2x-1)\neq 0$

$\rightarrow x\neq\{1,-3,\frac{1}{2}\} \longrightarrow \boxed{D_f=\mathbb{R}-\{1,-3,\frac{1}{2}\}}$

ب) $y=\dfrac{x+3}{2x^3+9x^2+10x+3}=\dfrac{x+3}{(x+1)(2x^2+7x+3)}=\dfrac{x+3}{(x+1)(2x+1)(x+3)}$

$\rightarrow (x+1)(2x+1)(x+3)\neq 0 \rightarrow x\neq\{-1,-\frac{1}{2},-3\}. \longrightarrow \boxed{D_f=\mathbb{R}-\{-1,-3,-\frac{1}{2}\}}$

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الف) $y=\dfrac{x+3}{x^3-2x^2+2x-1}=\dfrac{x+3}{(x-1)(x^2-x+1)} \quad x^2-x+1 \xrightarrow{\text{فاقد ریشه}} \quad x-1\neq 0\rightarrow x\neq 1$

$\Rightarrow \boxed{D_f=\mathbb{R}-\{1\}}$

ب) $y=\sqrt{\dfrac{x+3}{x^3-2x^2+2x-1}}=\sqrt{\dfrac{(x+3)}{(x-1)(x^2-x+1)}} \quad x^2-x+1 \xrightarrow[\text{مثبت}]{\text{فاقد ریشه و همواره}} \quad \dfrac{x+3}{x-1}\geq 0$

x		-3		1	
	$+$	0	$-$	$\nexists$	$+$

$\Rightarrow \boxed{D_f=(-\infty,-3]\cup(1,+\infty)}$

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$y=\dfrac{2}{x^2-5|x-1|-2x+5} \qquad \boxed{D_f=\mathbb{R}-\{-3,0,2,5\}}$

	1	
$\dfrac{2}{x^2+3x}$	✓	$\dfrac{2}{x^2-7x+10}$

$\longrightarrow x^2+3x\neq 0\rightarrow x(x+3)\neq 0\rightarrow x\neq\{0,-3\}$

$x^2-7x+10\neq 0\rightarrow (x-2)(x-5)\neq 0\rightarrow x\neq\{2,5\}$

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الف) $y=\dfrac{x-3}{|2x+1|-|x+3|} \rightarrow |2x+1|-|x+3|\neq 0\rightarrow |2x+1|\neq|x+3| \xrightarrow{(\,)^2} 4x^2+4x+1\neq x^2+6x+9$

$\Rightarrow 3x^2-2x-8\neq 0\rightarrow (x-2)(3x+4)\neq 0\rightarrow x\neq\{2,-\frac{4}{3}\}$

$\rightarrow \boxed{D_f=\mathbb{R}-\{2,-\frac{4}{3}\}}$

ب) $\sqrt{|2x+1|-|x+3|} \rightarrow |2x+1|-|x+3|\geq 0\rightarrow |2x+1|\geq|x+3| \xrightarrow{(\,)^2} 4x^2+4x+1\geq x^2+6x+9$

$\Rightarrow 3x^2-2x-8\geq 0\rightarrow (x-2)(3x+4)\geq 0$

x		$-\frac{4}{3}$		2	
	$+$	0	$-$	0	$+$

$\Rightarrow \boxed{D_f=\mathbb{R}-(-\frac{4}{3},2)}$

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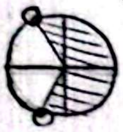
الف) $y=\log_2(1-\log_3 x) \rightarrow \left.\begin{array}{l} x>0 \\ 1-\log_3 x>0\rightarrow \log_3 x<1\rightarrow x<3\end{array}\right\}\xrightarrow{\cap}\boxed{D_f=(0,3)}$

ب) $y=\log_2(1-\log_{\frac{1}{2}} x) \longrightarrow \left.\begin{array}{l} x>0 \\ 1-\log_{\frac{1}{2}} x>0\rightarrow \log_{\frac{1}{2}} x<1\rightarrow x>\frac{1}{2}\end{array}\right\}\xrightarrow{\cap}\boxed{D_f=(\frac{1}{2},+\infty)}$

$f(x)=\sqrt{\log_{0.5}\log_5(2x-1)}$

$$\left.\begin{array}{l} 2x-1>0 \to x>\frac{1}{2} \\ \log_5(2x-1)>0 \to 2x-1>1 \to x>1 \\ \log_{0.5}\log_5(2x-1)\geq 0 \to \log_5(2x-1)\leq 1 \to 2x-1\leq 5 \to x\leq 3 \end{array}\right\} \xrightarrow{\cap} \boxed{D_f=(1,3]}$$ 6

الف) $y=\log(2\cos x+1) \to 2\cos x+1>0 \to \cos x>-\frac{1}{2}$



$\Rightarrow \boxed{D_f=\left(2k\pi-\frac{2\pi}{3},\ 2k\pi+\frac{2\pi}{3}\right)}$ 7

ب) $y=\sqrt{\log\frac{x-1}{x+1}} \to \frac{x-1}{x+1}>0$

	-1		1	
$+$		$-$		$+$

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

$\xrightarrow{\cap} \boxed{D_f=(-\infty,-1)}$

$f(x)=\sqrt{(a+2)x^2+ax+b}$

$D_f=(-\infty,3]$ با توجه به اینکه دامنه‌ی تابع $\longrightarrow$ عبارت زیر رادیکال یک عبارت خطی است $\longrightarrow a+2=0 \to a=-2$ 8

$f(x)=\sqrt{-2x+b} \xrightarrow[y=0]{x=3} 0=\sqrt{-6+b} \to \boxed{b=6}$

$f(x)=\sqrt{x^2+2x+2-m^2}$

$D_f=\mathbb{R} \longrightarrow$ عبارت همواره مثبت $\longrightarrow \Delta\leq 0$

$\to 2^2\underbrace{-4(2-m^2)}_{-8+4m^2}\leq 0 \to 4m^2-4\leq 0 \to 4(m-1)(m+1)\leq 0$ 9

$\Rightarrow -1\leq m\leq 1 \Rightarrow 1-(-1)=\boxed{2}$

$f(x)=\frac{\sqrt{4-x^2}}{[x]+[-x]+1} \to [x]+[-x]+1\neq 0 \to [x]+[-x]\neq -1 \to x\in\mathbb{Z}$

$4-x^2\geq 0 \to x^2\leq 4 \to -2\leq x\leq 2$

$\Rightarrow \boxed{D_f=\{-2,-1,0,1,2\}} \Rightarrow$ $\boxed{\text{۵ عدد صحیح}}$ 10