۱۸

(1 2

$\sqrt{4-\sqrt{2-x}} = \sqrt{2-x} \to 2-x \geq 0 \to x \leq 2$  $D=[-14,2]$

$4-\sqrt{2-x} \geq 0 \to \sqrt{2-x} \leq 4$  $2-x \leq 16$

$x \geq -14$  $-14 \leq x \leq 2$

$\sqrt{3-\sqrt{x-2}} \to \sqrt{x-2} \to x-2 \geq 0 \to x \geq 2$

$3-\sqrt{x-2} \geq 0 \to \sqrt{x-2} \leq 3 \to x-2 \leq 9 \to x \leq 11$  $2 \leq x \leq 11$

$D=[2,11]$

(2 2

$y=\sqrt{4-2x^2} \to 4-2x^2 \geq 0$  $-2x^2 \geq -4$

$D=[-\sqrt{2},\sqrt{2}]$  $x^2 \leq 2$  $-\sqrt{2} \leq x \leq \sqrt{2}$

$y=\sqrt{3|x|-9} \Rightarrow 3|x|-9 \geq 0$  $3|x| \geq 9$  $|x| \geq 3$

$D_f=(-\infty,-3] \cup [3,+\infty)$  $x \leq -3$  $x \geq 3$

(3 2

$y=\sqrt[3]{\frac{|x|+1}{|x|-3}} \to |x|-3 \neq 0 \to |x| \neq 3$

$x \neq 3$  $x \neq -3$

$D_f=\mathbb{R}-\{-3,3\}$

$y=\sqrt[3]{\frac{\sqrt{x}+1}{\sqrt{x}-3}} \to x \geq 0$  $\sqrt{x}-3 \neq 0$  $\sqrt{x} \neq 3$  $x \neq 9$

$D_f=[0,\infty)-\{9\}$

(4 2

$y=\frac{\sqrt{3-|x|}}{|x|+2} \to$

$3-|x| \geq 0 \to |x| \leq 3$  $-3 \leq x \leq 3$  $[-3,3]$  مخرج همیشه مثبت

$y=\frac{\sqrt{4-x^2}}{|x|-1} \to 4-x^2 \geq 0$  $-2 \leq x \leq 2$

$|x|-1 \neq 0$  $|x| \neq 1$  $x \neq 1$  $x \neq -1$

$D_f=[-2,2]-\{-1,1\}$ برخ

$[-2,2]-\{\pm 1\}$

date : ............ subject : ............

۵) ۲

$$y=\frac{x+1}{\sqrt{x+|x|}}= \quad x+|x|>0 \longrightarrow x>0 \to |x|=x$$

$$x+|x|=x+x=2x>0$$

$$\boxed{x>0}$$

$$Df=[0,+\infty)$$

$$\longrightarrow x<0 \to |x|=-x$$

$$x+|x|=x-x=0$$ رادیکال صفر نشود ×

$$y=\frac{1}{\sqrt{x|x|}} \longrightarrow x|x|>0 \longrightarrow x>0 \quad |x|=x$$

$$D=(0,\infty)$$

$$x|x|=x^2>0$$

فقط اعداد مثبت بزرگتر از صفر

۶)

$$y=\sqrt{2-[x]}= \quad 2-[x]\geq 0 \quad [x]\leq 2 \quad [x]=2\to 2\leq x<3$$

$$[x]=1\to 1\leq x<2$$ ۲

$$Df=(-\infty,3)$$

$$\vdots$$

$$y=\frac{1}{\sqrt{2-[x]}} \to 2-[x]>0 \quad [x]<2 \quad [x]=1\to 1\leq x<2$$

$$[x]=0\to 0\leq x<1$$

$$Df=(-\infty,2)$$

۷)

$$y=\frac{1}{x[x]}= \longrightarrow x[x]\neq 0 \longrightarrow x<0 \to [x]\leq -1$$

$$x\geq 1\to [x]\geq 1$$

۱/۵

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

همه اعداد حقیقی به جز $0\leq x<1$

غ ممکن!

$$y=\frac{1}{\sqrt{-x[x]}} \to -x[x]>0 \longrightarrow [x]<0 \to -x>0 \; , \; [x]<0,\; x<0 \Big\} \to x<0$$

$x$ , $[x]$ همواره هم علامت

$$\longrightarrow -x<0,\; [x]>0 \; , \; [x]>0,\; x>0 \Big\} \to x>0$$

$$Df=(-\infty,0)$$

$$Df=\varnothing$$

۸)

$$[x+\tfrac{2}{3}]\geq \tfrac{1}{3} \to x+\tfrac{2}{3}\geq 1 \quad x\geq\tfrac{1}{3} \quad Df=[\tfrac{1}{3},+\infty)$$

$$\cancel{/۵} \quad y=\sqrt{[x-\tfrac{1}{3}]+[x+\tfrac{2}{3}]}=y=\sqrt{2[x]+\tfrac{1}{3}} \to 2[x]+\tfrac{1}{3}\geq 0$$

۰/۵

$$2[x]\geq -\tfrac{1}{3} \to [x]\geq -\tfrac{1}{6} \longrightarrow Df=[0,+\infty) \quad x\geq 0$$

$$\cancel{۰}$$

$$y=\sqrt{[x-\tfrac{1}{3}]+[-x+\tfrac{1}{3}]} \to [x-\tfrac{1}{3}]+[-x+\tfrac{1}{3}]\geq 0 \quad Df=[-\tfrac{2}{3},-\tfrac{1}{3})$$

$$Df=\{x \mid x=k+\tfrac{1}{3},\; k\in\mathbb{Z}\}$$

دهم ریاضی B

الهام کاوری

9) ۲

$y=\frac{1}{2\sin^2 x-1}$ $\quad 2\sin^2 x-1\neq 0$

$2\sin^2 x=1 \to \sin^2 x=\frac{1}{2}$

$\sin x=\pm\frac{\sqrt{2}}{2}$

$\sin x=\frac{\sqrt{2}}{2}\to \frac{\pi}{4}+2k\pi$

$D=R-\{x=\frac{\pi}{4}+\frac{k\pi}{2}, k\in Z\}$

$\sin x=-\frac{\sqrt{2}}{2}\to -\frac{\pi}{4}+2k\pi$

$y=\frac{\cot x+1}{\tan x+1}\to \tan x+1\neq 0 \quad \tan x\neq -1$

$\tan x\neq -1\to x=-\frac{\pi}{4}+k\pi$

$D_f=R-\{k\pi, \frac{\pi}{2}+k\pi, -\frac{\pi}{4}+k\pi \mid k\in Z\}$

10) ۲

$y=\sqrt{2\sin x-1}\to 2\sin x-1\geq 0$

$\sin x\geq\frac{1}{2}$

$D=[\frac{\pi}{6}+2k\pi, \frac{5\pi}{6}+2k\pi]\cup k\in Z$

$y=\sqrt{1-2\cos x}$ : $1-2\cos x\geq 0$ $\quad \cos x\leq\frac{1}{2}$

$x\in[\frac{\pi}{3}, 2\pi-\frac{\pi}{3}]=\frac{\pi}{3}, \frac{5\pi}{3}$ $\quad x\in[\frac{\pi}{3}+2k\pi, \frac{5\pi}{3}+2k\pi]$

$D_f=k\in Z\cup[\frac{\pi}{3}+2k\pi, \frac{5\pi}{3}+2k\pi]$