پرهام منصوری   یازدهم سری B

۱-

$2x^2+y^2-4x+6y+K=0$

$(\sqrt{2}x-\sqrt{2})^2+(y+3)^2=0$ $9+2=11$

$2x^2+2-4x+y^2+6y+9$ $K=11$

۲-

$f(x)=\begin{cases} x^2+4x & ; x \geq a \\ 2x+a+2 & ; x < a \end{cases}$ $a^2+4a=2a+a+2$

$a^2+a-2=0$ جمع ضرایب 1, -2 غ ق ق

$2x+2$ $f(1)=2\times1+3=5$

۳-

$f(x)=\begin{cases} 2x^2-b & ; |x+1| \geq 2 \\ a+2x & ; -3 \leq x < 1 \end{cases}$ $\xRightarrow{-3}$ $2\times9-b=a-6$

$24=a+b$

۴-

$y=\sqrt{6x-a}+\sqrt{b-3x}$

$\sqrt{12-a}+\sqrt{b-6}$ $b=6$, $a=12$ $\frac{6}{12}=\frac{1}{2}$

۵-

$y=\sqrt{\frac{x+1}{|x-2|}}+\sqrt{\frac{6-x}{x^2+2x+4}}$ -1 2 $-\ \phi\ +\ +$ $[-1, 6]-\{2\}$

-1 6 $\frac{6}{+\ \phi\ -}$

x^2+2x+4 همواره مثبت

دلتا منفی

$-2\pm\sqrt{4-16}$

$y=\sqrt{[x]-4}+\sqrt{2-[x]}$ 4 5 $-\ |\ 0\ +\ +$ 2 3 $+\ |\ 0\ |\ -$

$\varnothing$

Sibo

۶-

الف) $y = \sqrt{\dfrac{x^2 - x - 6}{x^4 - 13x^2 + 36}}$ $\quad (x-3)(x+2)$ $\quad 3 \quad -2$

$x^2 = t \quad t^2 - 13t + 36$

$(x-9)(x-4) \Rightarrow x = \pm 2 \quad \pm 3$

$-3 \quad -2 \quad 2 \quad 3$

$D_f = (-\infty \;\; 2) \cup (2 \;\; 3) \cup (3 \;\; +\infty)$

ب) $y = \sqrt{\dfrac{x^3 - 2x^2 - 5x + 6}{x^3 + 2x^2 - 5x - 6}}$ $\quad x - 1 \quad x + 1$

$3, -2, 1 \qquad -3, 2, -1$

$1 \;|\; -2 \;|\; -5 \;|\; 6$
$1 \;|\; -1 \;|\; -6 \;|\; 0$

$x^2 - x - 6 \quad (x-3)(x+2)$

$1 \;|\; 2 \;|\; -5 \;|\; -6$
$-1 \;|\; +1 \;|\; -6 \;|\; 0$

$x^2 + x - 6 \quad (x-2)(x+3)$

$-3 \quad -2 \quad -1 \quad 1 \quad 2 \quad 3$

$D_f = (-\infty \;\; -3) \cup [-2 \;\; -1) \cup [1 \;\; 2) \cup [3 \;\; +\infty)$

۷-

$y = \sqrt{[-x] - 2}$ $\quad -3 \quad -2$

$D_f = (-\infty \;\; -2]$

$y = \dfrac{5x^2 - 4}{[x]^2 - 3[x] - 4}$ $\quad [x]^2 - 3[x] - 4 \neq 0$

$x^2 - 3x - 4 \neq 0$

$(x-4)(x+1)$ $\quad 4 \quad -1$

$-1 \quad 0 \quad 3 \quad 4$

$D_f = (-\infty \;\; -1) \cup [0 \;\; 3) \cup [4 \;\; +\infty)$

۸-

$y = \dfrac{\cot x + 1}{\tan x + 1}$ $\quad \sin x \neq 0 \quad \cos x \neq 0$

$\tan x + 1 \neq 0 \Rightarrow \tan x \neq -1$

$D_f = R - \left\{\dfrac{k\pi}{2}, \; k\pi - \dfrac{\pi}{4}\right\}$

۸ -

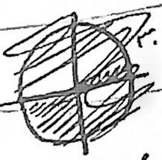
ت) $\sqrt{1-4\sin^2 x}$

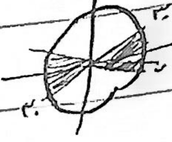
$1-4\sin^2 x \geq 0$

$1 \geq 4\sin^2 x$

$\frac{1}{4} \geq \sin^2 x$

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





~~$D_f\{k\pi, k\pi+\frac{\pi}{6}, k\pi, k\pi\frac{\pi}{6}\}$~~

$D_f=\{k\pi-\frac{\pi}{6}, k\pi+\frac{\pi}{6}\}$

۹ -

$y=\sqrt{1-\log_{\frac{1}{2}}^{x-1}}$

$x-1>0$

$x>1$

$1-\log_{\frac{1}{2}}^{x-1} \geq 0$

$1 \leq \log_{\frac{1}{2}}^{x-1}$

$\frac{1}{2} \leq x-1 \qquad \frac{3}{2} \leq x$

$[\frac{3}{2}, +\infty)$

$y=\frac{\sqrt{x^2-x}}{1-\log_4^{x^2-3x}}$

$x(x-1)$

$0 \quad 1$

$x^2-3x>0$

~~$x(x-3)$~~

$x(x-3)>0$

$0 \quad 3$

$1-\log_4^{x^2-3x} \neq 0$

$1 \neq \log_4^{x^2-3x}$

$\boxed{D_f=(-\infty, -1)\cup(-1, 0)\cup(3, 4)\cup(4, +\infty)}$

$4 \neq x^2-3x \qquad x^2-3x-4 \neq 0$

$(x-4)(x+1)$

$4 \quad -1$

4

۱۰.

$y=\sqrt{4x-x^2-8}$

$4x-x^2 \geq 3$

$-x^2+4x-3 \geq 0$

ریشه

$1, 3$

$[1 \quad 3]$

$\left(\frac{3x+5}{2x+4}\right)! \Rightarrow \frac{3x+5}{2x+4} \in W \qquad x=-\frac{4w-5}{2w-3} \Rightarrow x=\frac{5-4w}{2w-3}$

$D_f=\{x \mid x=\frac{5-4k}{2k-3}, k\in W\}$

~~$D_f=\{x \mid x=\frac{\quad}{\quad}, k\in W\}$~~