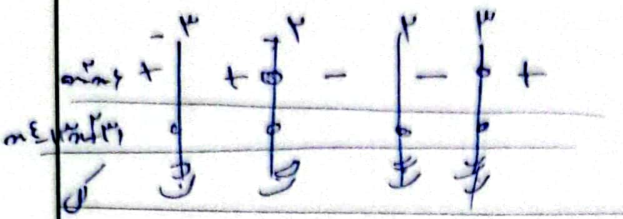
$\frac{x^2-x-6}{x^4-13x^2+36} \geq 0$ $\quad \frac{(x+2)(x-3)}{(x^2-9)(x^2-4)} = \frac{(x+2)(x-3)}{(x+3)(x-3)(x+2)(x-2)} \geq$ $\quad$ ۳ و ۳- و ۲ و ۲-

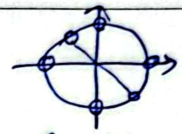


الف) $[-x]-2 \geq 0 \quad [-x] \geq 2 \quad [2,+\infty) \sim 2 \leq -x \rightarrow 2 \geq x$

$\frac{5x^2+6}{[x]^2-2[x]-3}$ $\quad [x]^2-2[x]-3 \neq 0 \sim ([x]-3)([x]+1) \neq 0 \Rightarrow [x] \neq 3$ ب) $\sim [x] \neq -1$

$R-[3,4) \cup [-1,0)$

الف) $\frac{\cot x+1}{\tan x+1}$ $\rightarrow$ نباید sin و cos تعریف نشده باشد



$\sim \tan x \neq -1 \quad R-\{k\pi, k\pi+\frac{\pi}{2}, k\pi+\frac{3\pi}{4}\}$

ب) $1-4\sin^2 x \geq 0 \quad 1 \geq 4\sin^2 x \rightarrow \sin^2 x \leq \frac{1}{4} \rightarrow \sin x \leq \pm \frac{1}{2}$ $\quad (k\pi-\frac{\pi}{6}, k\pi+\frac{\pi}{6})$

$1-\log_{\frac{1}{2}}(x-1) \geq 0$ $\quad 1 \rightarrow x-1>0 \rightarrow x>1$

$2 \rightarrow \log_{\frac{1}{2}}^{x-1} \leq 1 \quad \frac{1}{2} \leq x-1 \rightarrow x \geq 1.5$

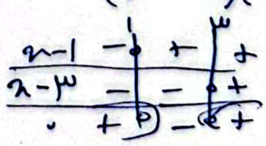
$\frac{\sqrt{x^2-x}}{1-\log_4^{x^2-3x}}$ $\rightarrow x^2-x \geq 0 \rightarrow x(x-1) \geq 0 \rightarrow x=0, x=1$ $\quad x \geq 1.5$

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

$2^{4x-x^2}-8 \geq 0 \quad 2^{4x-x^2} \geq 8 \quad 4x-x^2 \geq 3 \quad x^2-4x+3 \leq 0$

$(x-1)(x-3) \leq 0$

$(-\infty,1] \cup [3,+\infty)$



$\frac{3x+5}{2x+4} \in W \sim$ $\quad \{x \mid x = \frac{-4w+5}{2w-3}, k \in w\}$

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$a^2+4a=3a+2 \rightarrow a^2-a-2=0 \rightarrow (a-2)(a+1)$ ✓ $a=2$ ✗ $a=-1$

$x^4+4x \quad x \geq 2$

$3x+a+2 \quad x \leq 2 \rightarrow 2+2+2=6$

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$x+1 \leq -2 \rightarrow x \leq -3$

$|a-b|=a+-6 \rightarrow a+b=24$

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$4x^2-ax \geq 0 \rightarrow 12-a \geq 0 \quad a \leq 12$

$b-3x^2 \geq 0 \quad b-4 \geq 0 \quad b \geq 4$

$\frac{2}{12}=\frac{1}{6}$

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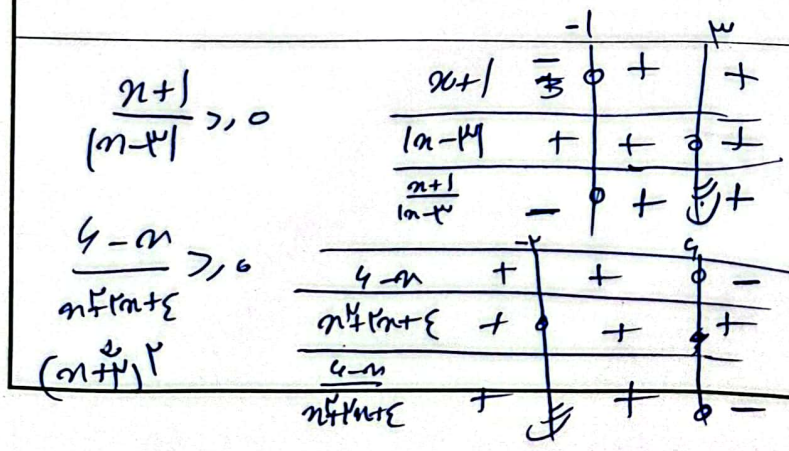

استراک