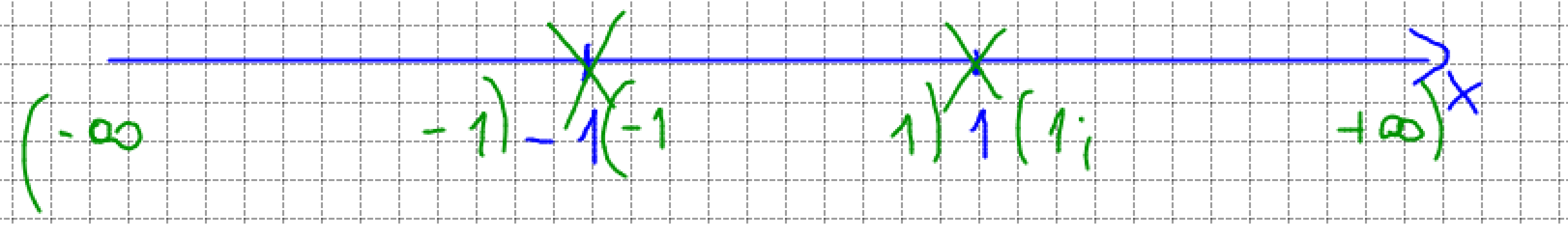
N 503 PAG 93

$$f(x)=\frac{1}{e-e^{x^4}}$$

- <u>Dominio</u> = campo di esistenza: $CE_f=\{x\in\mathbb{R}\ /\ e-e^{x^4}\neq 0\}=$

$=\{x\in\mathbb{R}\ /\ e^{x^4}\neq e\}=\{x\in\mathbb{R}\ /\ x^4\neq 1\}=$

$=\{x\in\mathbb{R}\ /\ x\neq\pm 1\}=(-\infty;-1)\cup(-1;1)\cup(1;+\infty)$



- $x^4\neq 1 \quad x^4-1\neq 0 \quad (x^2-1)(x^2+1)\neq 0$
  - $x^2-1\neq 0$: $x\neq 1$, $x\neq -1$
  - $x^2+1\neq 0$ sempre

- <u>PARITÀ</u>

$$f(x)=\frac{1}{e-e^{x^4}}$$

$$f(-x)=\frac{1}{e-e^{(-x)^4}}=\frac{1}{e-e^{x^4}}$$

$f(x)=f(-x) \iff$ <u>$f(x)$ è pari</u>

- <u>SEGNO E ZERI</u>

$$f(x)\geq 0 \qquad \frac{1}{e-e^{x^4}}\geq 0$$

$N\geq 0 \quad 1\geq 0$ sempre positivo

$D>0 \quad e-e^{x^4}>0 \quad e>e^{x^4}$ a mente! $\quad 1>x^4 \quad x^4-1<0$

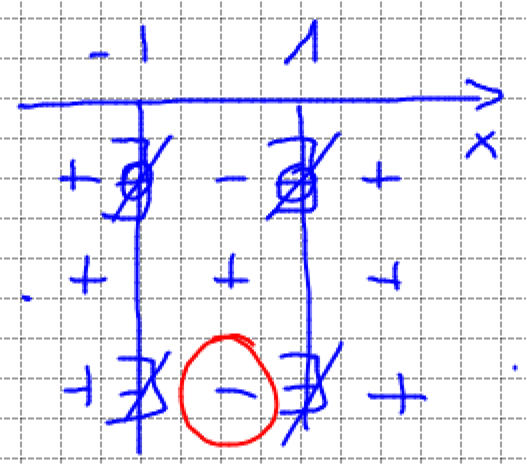
$(x^2-1)(x^2+1)<0$

$D_1 \quad D_2$

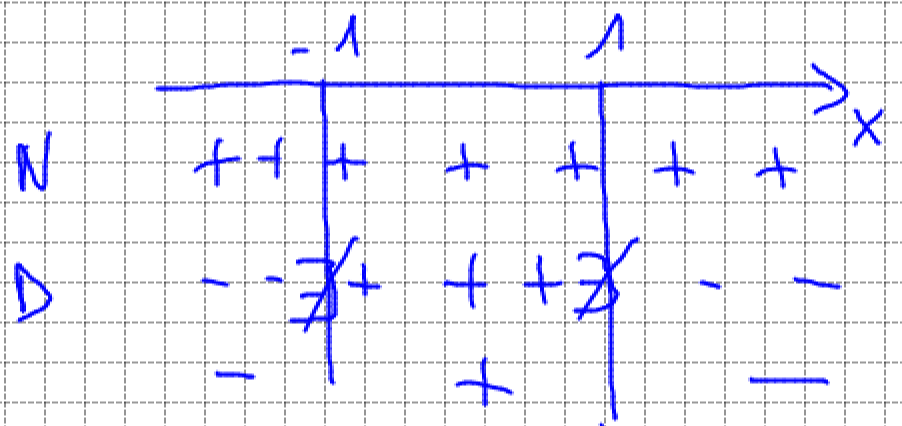
$D_1>0 \quad x^2-1>0 \quad x<-1 \cup x>1$

$D_2>0 \quad x^2+1>0$ sempre positivo

$D=D_1\cdot D_2$



$S_D: -1<x<1$



$S: (-1;1) \quad f(x)>0$

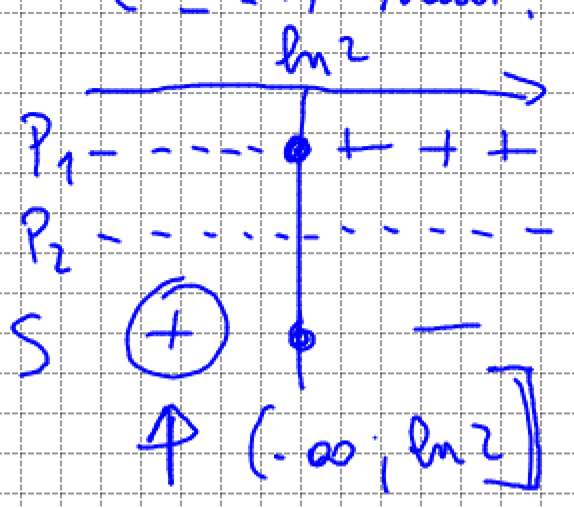
<u>N 140</u>

$$(e^x-2)(-e^{-x}-1)\geq 0$$

$P_1 \qquad P_2$

$e^x-2\geq 0 \quad e^x\geq 2 \quad x\geq \ln 2$

$-e^{-x}-1\geq 0 \quad e^x\leq -1 \quad \frac{1}{e^x}\leq -1 \to 1\leq -e^x \quad e^x\leq -1$ mai.



$(-\infty;\ln 2]$