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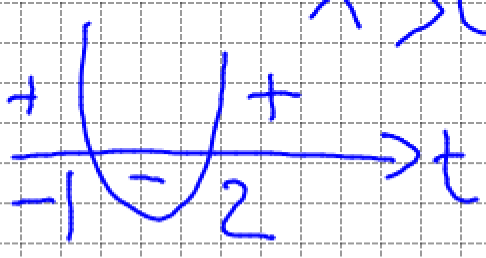
$\log_2(e^{2x}-e^{x})>1$

C.E.
$e^{2x}-e^{x}>0$
$e^{2x}>e^{x} \iff 2x>x$
$x>0$

$\begin{cases} x>0 \\ e^{2x}-e^{x}>2 \end{cases}$ $\begin{cases} x>0 \\ e^{x}=t \\ t^2-t-2>0 \end{cases}$

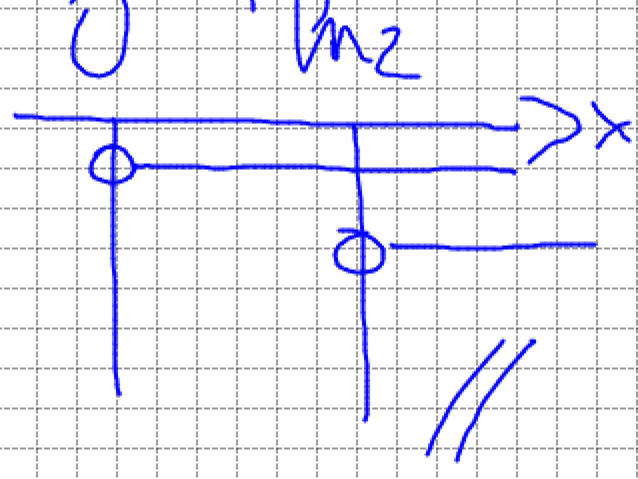


$\begin{cases} x>0 \\ e^{x}=t \\ t_{1,2}=\dfrac{1\pm\sqrt{1+8}}{2} \end{cases}$: $t_1=2$, $t_2=-1$ IMPOSS.

$\begin{cases} x>0 \\ e^{x}>2 \end{cases}$ $\begin{cases} x>0 \\ \ln e^{x}>\ln 2 \end{cases}$ $\begin{cases} x>0 \\ x\ln e>\ln 2 \end{cases}$

$(\ln 2;+\infty)$

$\begin{cases} x>0 \\ x>\ln 2 \end{cases}$



$\log_a b^c = c\log_a b$

$x=\log_a b$ $\quad a^x=b$ elevo alla c

$a^{xc}=b^c$

$xc=\log_a b^c$

$c\log_a b=\log_a b^c$

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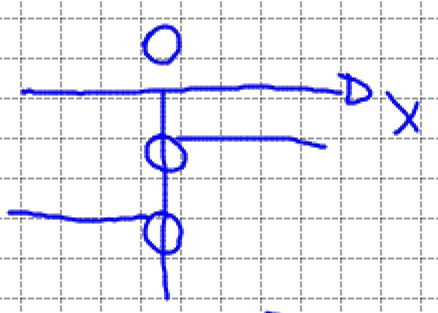
$\log_3|x|\geq -1$ $\quad$ C.E. $\{x\in\mathbb{R} \mid |x|>0\}$

$\begin{cases} x\neq 0 \\ \log_3|x|\geq -1 \end{cases}$ $\begin{cases} x\neq 0 \\ |x|\geq \dfrac{1}{3} \end{cases}$

$\begin{cases} x>0 \\ -x>0 \end{cases}$: $\begin{cases} x>0 \\ x<0 \end{cases}$ $\quad x\neq 0$



$\begin{cases} x\geq 0 \\ x\neq 0 \\ x\geq \frac{1}{3} \end{cases} \cup \begin{cases} x<0 \\ x\neq 0 \\ -x\geq \frac{1}{3} \end{cases} \to x\leq -\frac{1}{3}$

$\left(-\infty;-\frac{1}{3}\right] \cup \left[\frac{1}{3};+\infty\right)$

$$\log_a bc = \log_a b + \log_a c$$

$x = \log_a b$ $\qquad$ $y = \log_a c$

$b = a^x$ $\qquad$ $c = a^y$

$$bc = a^x a^y$$

$$bc = a^{x+y}$$

$x + y = \log_a bc$ $\qquad$ $\log_a b + \log_a c = \log_a bc$

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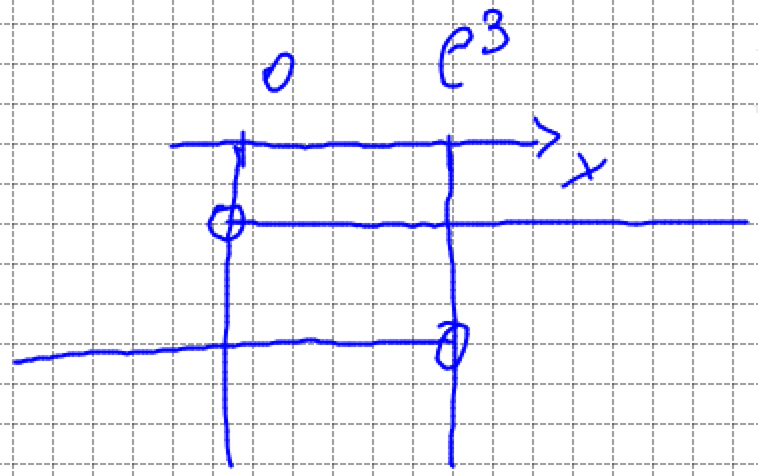
$\ln x \leq 3$ C.E. $x > 0$

$$\begin{cases} x > 0 \\ x \leq e^3 \end{cases}$$



S: $x \in (0; e^3)$

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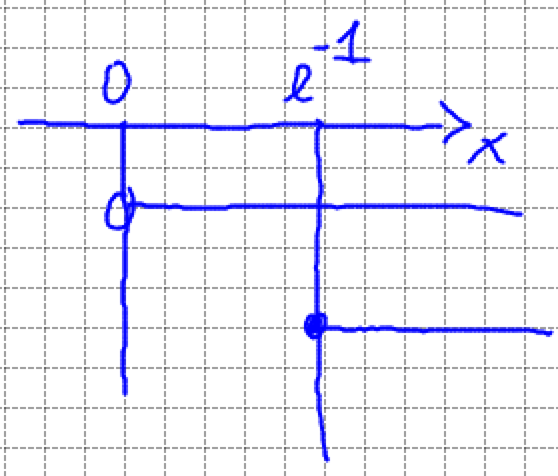
$\ln x \geq -1$ C.E. $x > 0$

$$\begin{cases} x > 0 \\ x \geq e^{-1} \end{cases}$$



S: $x \in [e^{-1}; +\infty)$

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

$D_f: \{x \in \mathbb{R} / x \neq 0\} =$ C.E. $(-\infty; 0) \cup (0; +\infty)$

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

$e^{1+\frac{1}{x}} \neq e^{1-\frac{1}{x}}$ $f(x) \neq f(-x)$ NON È PARI

$-f(-x) = -e^{1+\frac{1}{x}} \neq f(x)$ NON È DISPARI

$f(x) \geq 0$

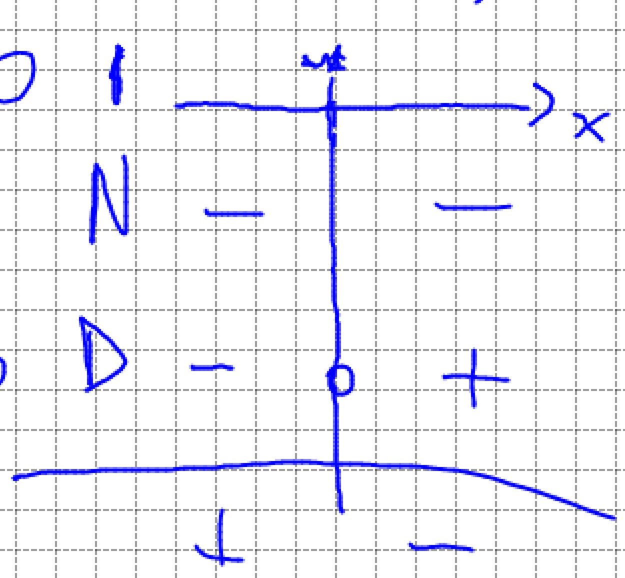
$e^{1-\frac{1}{x}} \geq 0$

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

$\frac{x-1-x}{x} \geq 0 \Rightarrow -\frac{1}{x} \geq 0$

N) $-1 > 0$

D) $x > 0$



$x < 0$