

DISEQUAZIONI ESPONENZIALI / LOGARITMICHE

$$4^x + 4^{x+1} + 4^{x+2} \leq 21 \cdot 8^{x+1}$$

$$4^x (1 + 4 + 16) \leq 21 \cdot 2^{3x+3}$$

$$4^x (21) \leq 21 \cdot 2^{3x+3} \quad 2^{2x} \leq 2^{3x+3} \quad 2x \leq 3x+3 \quad \boxed{x \geq -3}$$

$$\log(1-x) + \log(2-x) > \log x + \log(x+5)$$

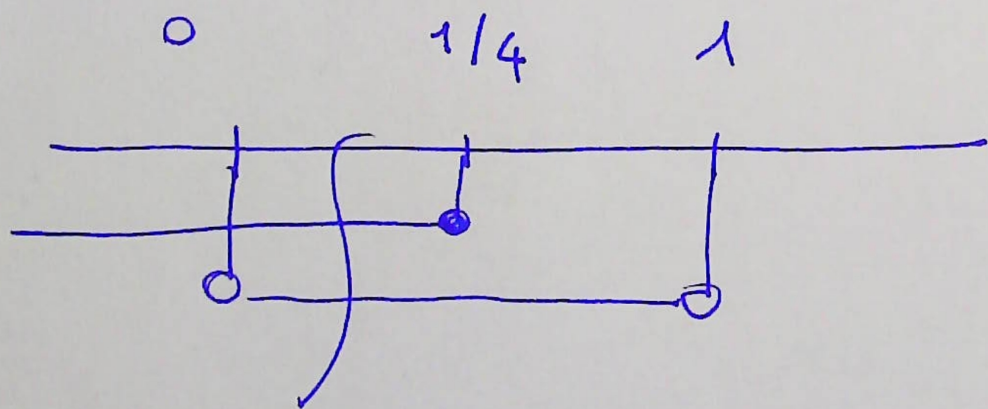
$$\log(1-x)(2-x) > \log x(x+5)$$

$$(1-x)(2-x) > x(x+5)$$

$$2 - x - 2x + x^2 > x^2 + 5x$$

$$-8x > -2 \quad x \leq \frac{1}{4}$$

$$S_F: \begin{cases} x \leq \frac{1}{4} \\ 0 < x < 1 \end{cases} \Rightarrow \boxed{0 < x \leq \frac{1}{4}}$$



$$C.E: \begin{cases} 1-x > 0 \\ 2-x > 0 \\ x > 0 \\ x+5 > 0 \end{cases}$$

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$$\begin{cases} x < 1 \\ x < 2 \\ x > 0 \end{cases}$$

$$x > -5$$

