PAG. 139 N 163

$$(1-x)^2 + x(x-3) > 1 - 2x\left(1 - \frac{x}{2}\right)$$

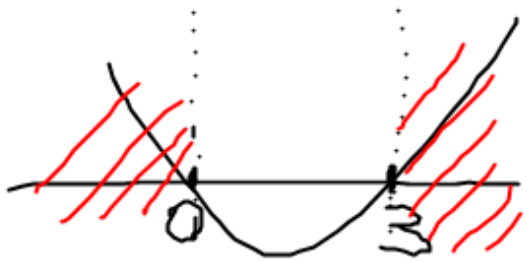
$$1 + x^2 - 2x + x^2 - 3x > 1 - 2x + x^2$$

$$x^2 - 3x > 0$$

$$x^2 - 3x = 0$$

$$x(x-3) = 0$$

$x = 0 \quad x = 3$



$$x < 0 \quad \vee \quad x > 3$$

PAG. 144 N 238

N] $\dfrac{x^2-3x-4}{x^2-7x+6} \geq 0$

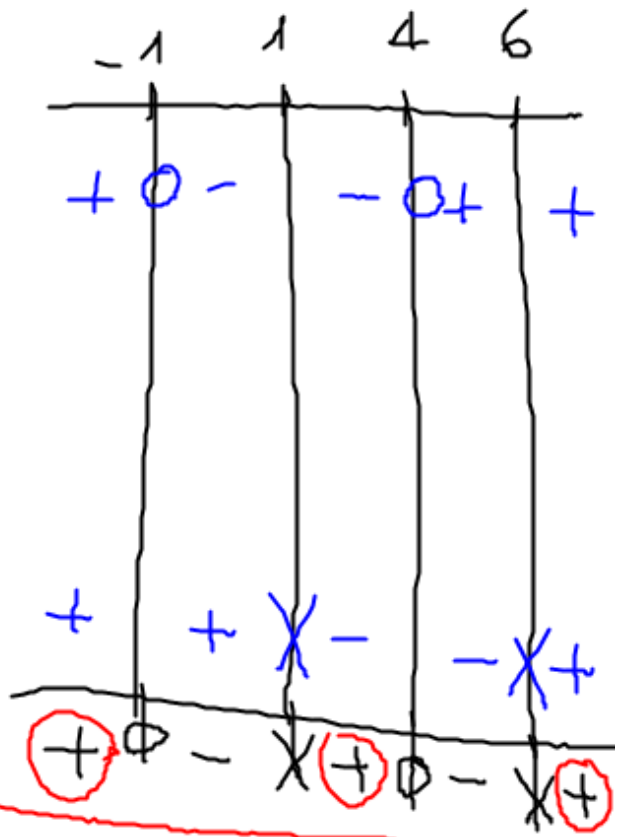
D]

N] $x^2-3x-4>0$

$\Delta = 9+16=25$

$x=\dfrac{3\pm 5}{2}=\begin{cases}-1\\4\end{cases}$

$x<-1 \vee x>4$



D] $x^2-7x+6>0$

$\Delta = 49-24=25$

$x=\dfrac{7\pm 5}{2}=\begin{cases}1\\6\end{cases}$

$x<1 \vee x>6$

$x \leq -1 \vee 1 < x \leq 4 \vee x>6$

N 240

$$-\frac{x^2+2-x}{x-1}+4>0$$

$$\frac{-x^2-2+x+4(x-1)}{x-1}>0$$

$$\frac{-x^2-2+x+4x-4}{x-1}>0$$

$$\frac{-x^2+5x-6}{x-1}>0 \longrightarrow \frac{x^2-5x+6}{x-1}<0$$

N) $\dfrac{x^2-5x+6}{x-1} < 0$

D)

N) $x^2-5x+6>0$

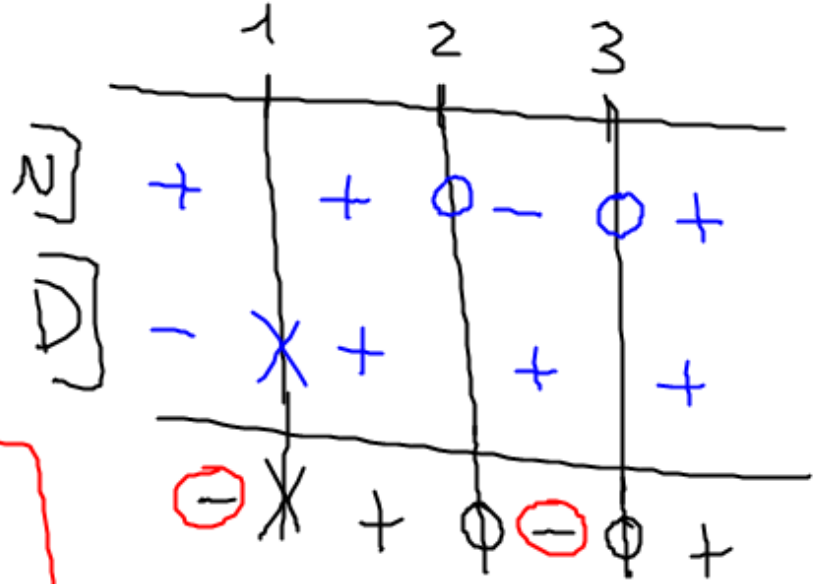
$\Delta = 25-24=1$

$x = \dfrac{5\pm 1}{2} = \begin{cases} 2 \\ 3 \end{cases}$

$x<2 \vee x>3$

~~2 3~~

D) $x-1>0 \Rightarrow x>1$



$x<1 \vee 2<x<3$

243) $\dfrac{1}{3x-x^2} - \dfrac{4}{x^2-6x+9} \leq \dfrac{1}{x-3}$

$-x(x-3) \qquad (x-3)^2$

$$\frac{-1}{x(x-3)} - \frac{4}{(x-3)^2} - \frac{1}{x-3} \leq 0$$

$$\frac{-(x-3) - 4x - x(x-3)}{x(x-3)^2} \leq 0$$

$$\frac{-x+3-4x-x^2+3x}{x(x-3)^2} \leq 0 \qquad \frac{-x^2-2x+3}{x(x-3)^2} \leq 0$$

$$N]\quad \frac{x^2+2x-3}{x(x-3)^2} \geq 0$$

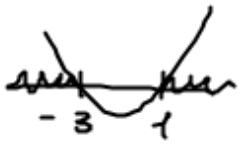
D_1 | D_2

CAMBIO SEGNI E VERSO DELLA DISUGUAGLIANZA

$N]\quad x^2+2x-3>0$

$\Delta = 4+12 = 16$

$x = \frac{-2\pm 4}{2} = \begin{cases} -3 \\ 1 \end{cases}$



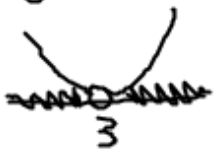
$x<-3 \vee x>1$

$D_1]\quad x>0$

$D_2]\quad (x-3)^2>0 \qquad x\neq 3$

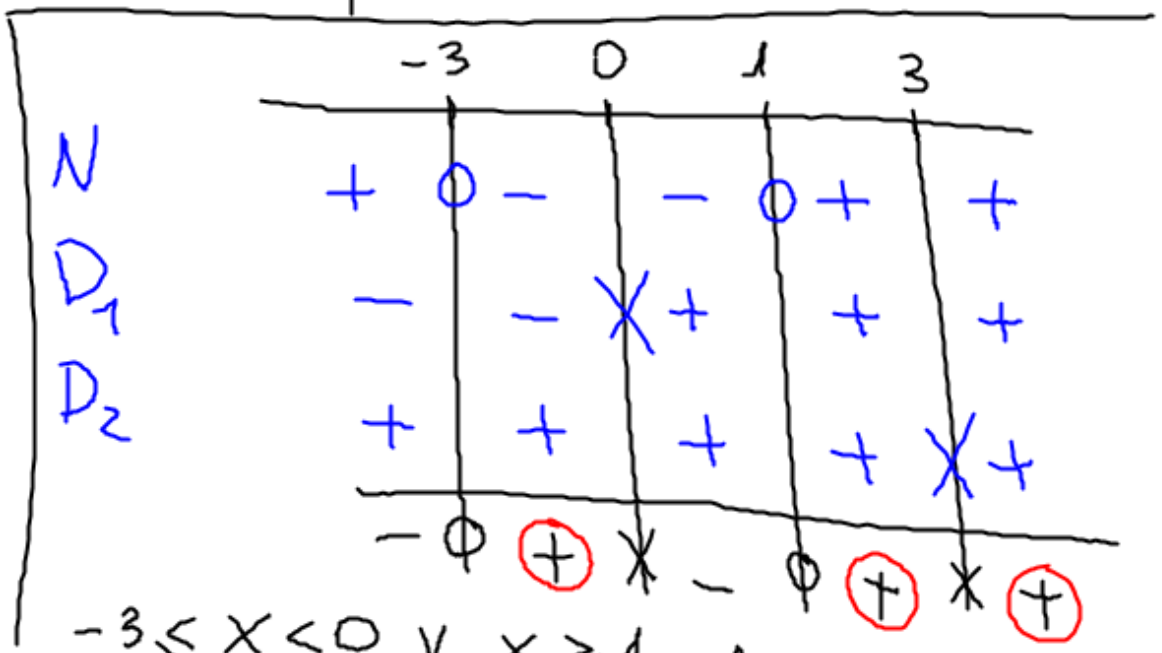
$x^2-6x+9>0$

$\Delta = 0$



$-3\leq x<0 \vee 1\leq x<3 \vee x>3$

SI PUÒ ANCHE SCRIVERE COSÌ



$-3\leq x<0 \vee x\geq 1 \wedge x\neq 3$