Es 464 pag 594 [Giulia Bettelli (Vagabonda)]

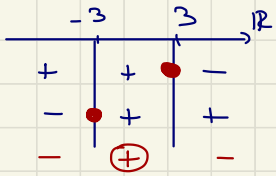
$$\frac{9-x^2}{2x^2+4x} \geq 0$$

$N \geq 0$:

$9-x^2 \geq 0 \qquad (3-x)(3+x) \geq 0$

$N_1 \geq 0 \qquad 3-x \geq 0 \rightsquigarrow x \leq 3$

$N_2 \geq 0 \qquad 3+x \geq 0 \rightsquigarrow x \geq -3$



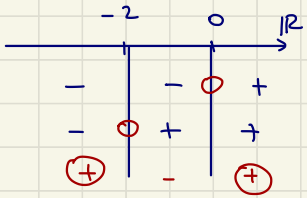
$-3 \leq x \leq 3$ oppure $[-3;3]$

$D > 0$

$2x^2+4x > 0 \qquad 2x(x+2) > 0$

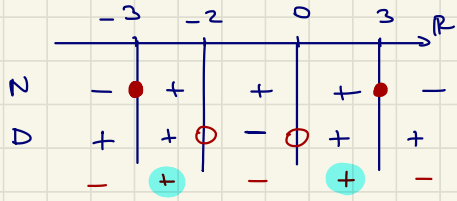
$D_1 > 0 \qquad 2x > 0 \rightsquigarrow x > 0$

$D_2 > 0 \qquad x+2 > 0 \rightsquigarrow x > -2$



$x < -2 \quad \vee \quad x > 0$ oppure $(-\infty,-2) \cup (0,+\infty)$

Grafico segni finale



Sol: $-3 \leq x < -2 \quad \vee \quad 0 < x \leq 3$

$[-3;-2) \cup (0,3]$

Warning per LA vagabonda: si pongono SEMPRE Numeratori, denominatori e fattori maggiori o maggiori uguali a 0.

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$$\frac{2}{5x-1} - \frac{2}{3}x + \frac{4}{1-5x} \leq \frac{1-2x}{3}$$

(1) mcm e porto tutto da una parte

$5x-1$

$$\frac{6 - \cancel{10x^2} + \cancel{2x} - 12}{3(5x-1)} \leq \frac{5x - \cancel{10x^2} - 1 + \cancel{2x}}{3(5x-1)}$$

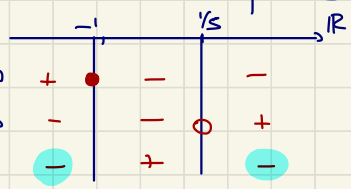
$$\frac{-5x-5}{3(5x-1)} \leq 0$$

Warning: NON si semplificano i denominatori!!!

(2) Risolviamo come prima

$N \geq 0 \quad -5x-5 \geq 0 \quad \rightsquigarrow \quad x \leq -1$

$D > 0 \quad 3(5x-1) > 0 \quad \rightsquigarrow \quad x > \frac{1}{5}$



Sol: $x \leq -1 \quad \vee \quad x > 1/5$

$(-\infty; -1] \quad \cup \quad (1/5; +\infty)$

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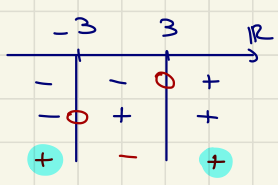
$$\begin{cases} \text{(I)} & \frac{4x^2-4x+1}{x^2-4x} < 0 \\ \text{(II)} & \frac{1}{x} \leq 4 \\ \text{(III)} & 9 < x^2 \end{cases} \qquad \begin{cases} & \\ x<0 \ \vee \ x \geq \frac{1}{4} \\ \\ x<-3 \ \vee \ x>3 \end{cases}$$

(III) $9 < x^2 \rightsquigarrow x^2 - 9 > 0 \qquad (x-3)(x+3) > 0$

$f_1) \ x-3 > 0 \rightsquigarrow x > 3$

$f_2) \ x+3 > 0 \rightsquigarrow x > -3$



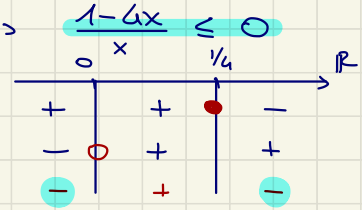
Sol: $x < -3 \quad \vee \quad x > 3$

$(-\infty; -3) \quad \cup \quad (3; +\infty)$

(#) $\frac{1}{x} \leq 4 \quad \rightsquigarrow \quad \frac{1}{x} \leq \frac{4x}{x} \quad \rightsquigarrow \quad \frac{1-4x}{x} \leq 0$

$N \geq 0 \qquad 1-4x \geq 0 \qquad x \leq \frac{1}{4}$

$D > 0 \qquad x > 0$



Sol: $x < 0 \quad \vee \quad x \geq 1/4$

$(-\infty; 0) \cup [1/4; +\infty)$