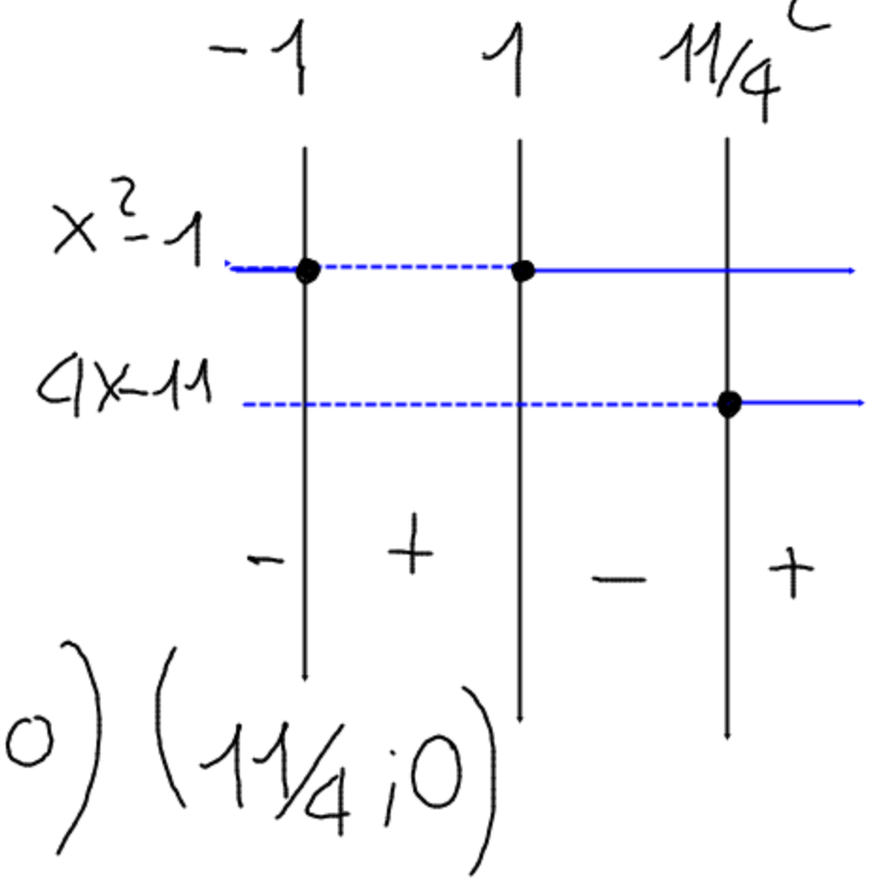
$$y = 4x^3 - 11x^2 - 4x + 11$$

$$y = 4x(x^2-1) - 11(x^2-1)$$

$$y = (x^2-1)(4x-11)$$

$D = \{\forall x \in \mathbb{R}\}$



$$\begin{cases} x = 0 \\ y = 11 \end{cases} \qquad (0;11)$$

$$\begin{cases} y = 0 \\ y = 4x^3 - 11x^2 - 4x + 11 \end{cases} \qquad (-1;0)\ (1;0)\ \left(\tfrac{11}{4};0\right)$$

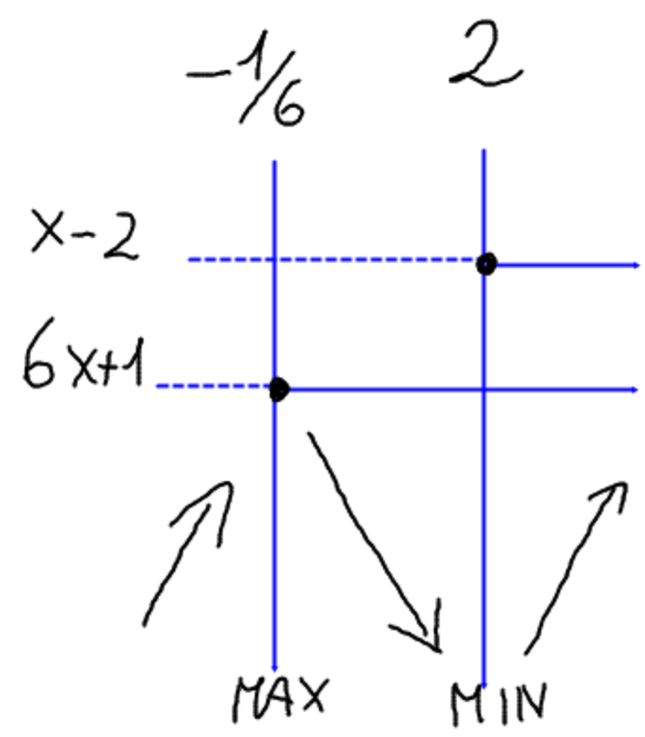
$$y' = 12x^2 - 22x - 4$$

$$y' = 2(6x^2 - 11x - 2)$$

$$y' = 2(6x^2 - 12x + x - 2)$$

$$y' = 2[6x(x-2) + 1(x-2)]$$

$$y' = 2(x-2)(6x+1)$$



$$y_{MAX} = f(-1/6) = \frac{-4}{216} - \frac{11}{36} + \frac{4}{6} + 11$$

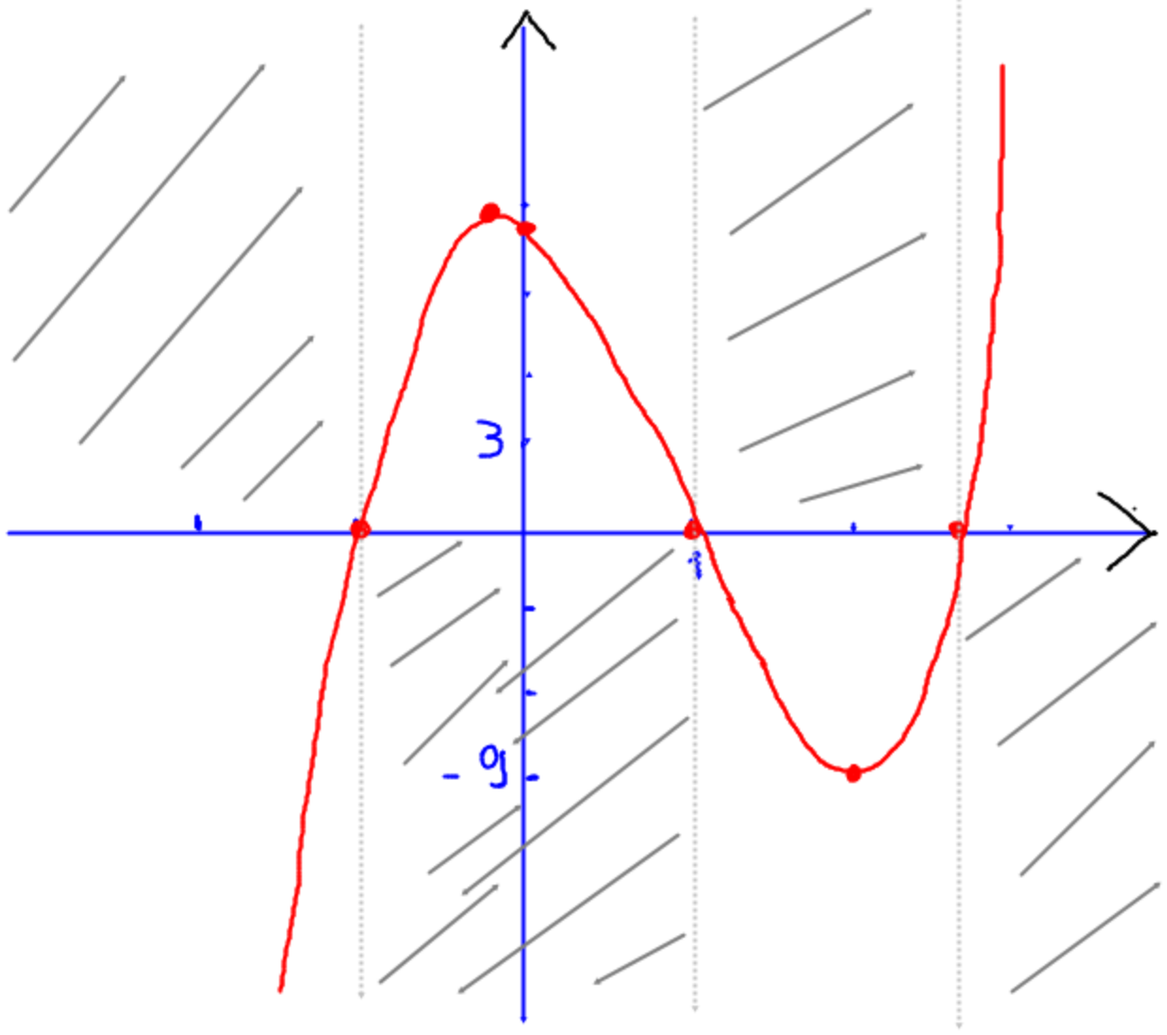
$$y_{MAX} = \frac{-2 - 33 + 72 + 1188}{108}$$

$$MAX\left(-\tfrac{1}{6}; \frac{1225}{108}\right)$$

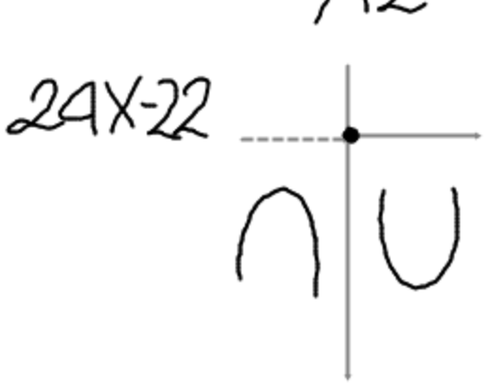
$$y_{MAX} = \frac{1225}{108}$$

$$y_{MIN} = f(2) = 32 - 44 - 8 + 11 = -9$$

$$MIN\,(2;-9)$$



$$y'' = 24x - 22$$



$$F\left(\frac{11}{12}; \frac{253}{216}\right)$$

$$y_F = f(11/12) = 4(11/12)^3 - 11(11/12)^2 - 4(11/12) + 11$$

$$y_F = \frac{1331}{432} - \frac{1331}{144} - \frac{11}{3} + 11 =$$

$$= \frac{1331 - 3993 - 1584 + 4752}{432} = \frac{506}{432} =$$

$$= \frac{253}{216}$$

...