$$D = \{\forall x \in \mathbb{R}\}$$
$$D =]-\infty; +\infty[$$

$$y = x^3 - x^2 - x + 1$$
$$y = x^2(x-1) - 1(x-1)$$
$$y = (x^2-1)(x-1)$$

$x = \pm 1$

$x = 1$

		-1		1	
x^2-1	$+$		$-$		$+$
$x-1$	$-$		$-$		$+$
y	$-$		$+$		$+$

INT ASSE Y $\begin{cases} x = 0 \\ y = 1 \end{cases}$ $(0; 1)$

$$y' = 3x^2 - 2x - 1$$

$$\Delta = 4 + 12 = 16$$

$$x_{1,2} = \frac{2 \pm 4}{6} < \begin{matrix} 1 \\ -\frac{1}{3} \end{matrix}$$

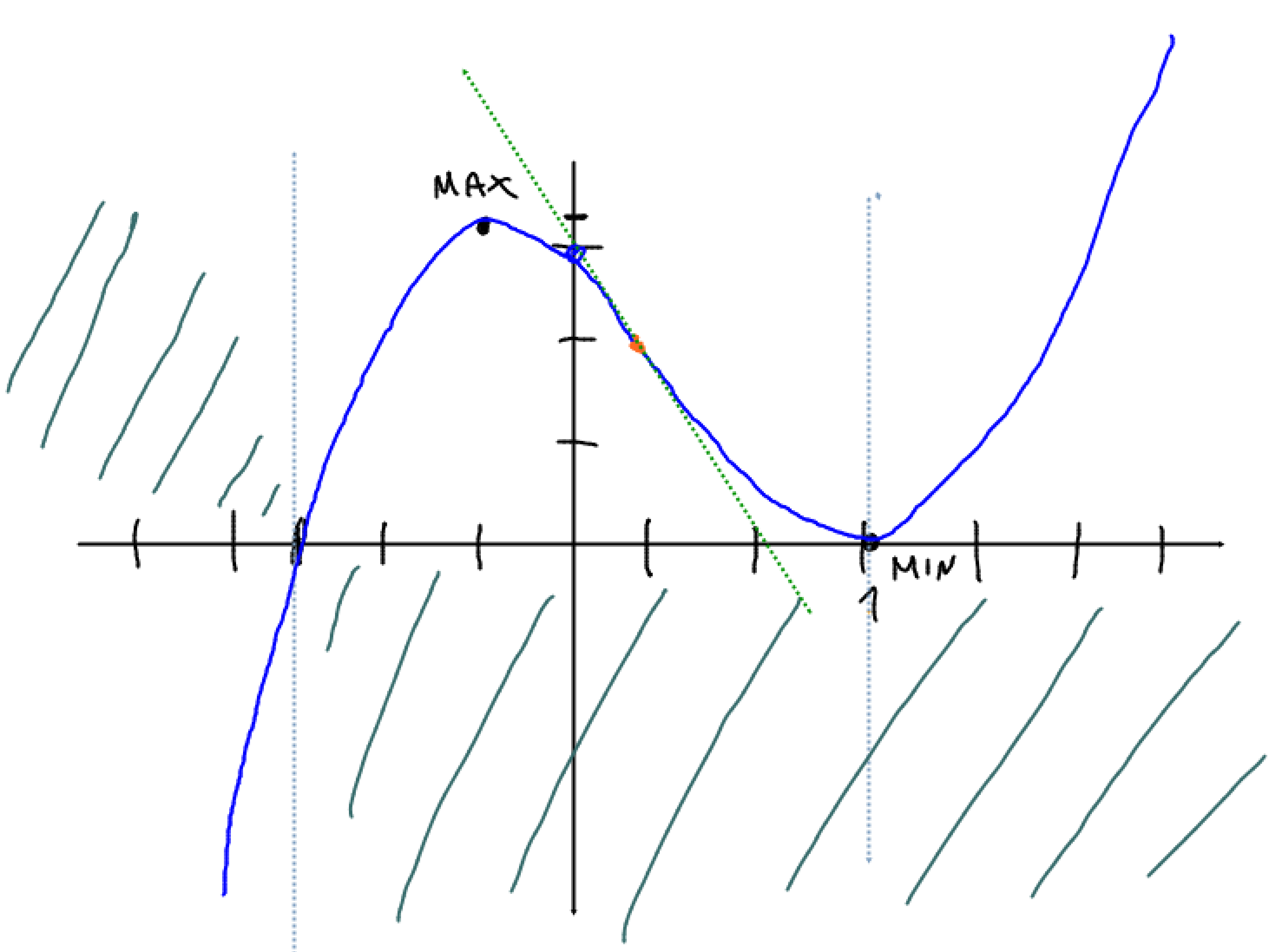
		$-\frac{1}{3}$		1	
$3x^2-2x-1$	$+$		$-$		$+$
y'	$\nearrow$	MAX	$\searrow$	MIN	$\nearrow$

$$y\text{MAX} = f\left(-\frac{1}{3}\right) =$$

$$= \left(-\frac{1}{3}\right)^3 - \left(-\frac{1}{3}\right)^2 - \left(-\frac{1}{3}\right) + 1 = -\frac{1}{27} - \frac{1}{9} + \frac{1}{3} + 1 =$$

$$= \frac{-1-3+9+27}{27} = \frac{32}{27} \quad \left(-\frac{1}{3}; \frac{32}{27}\right) \text{MAX}$$

$$y\text{MIN} = f(1) = 1 - 1 - 1 + 1 = 0 \quad (1; 0)\text{MIN}$$



$$y'' = 6x - 2$$

		$\frac{1}{3}$	
$6x-2$	$-$		$+$
y''	$\cap$		$\cup$

$$F\left(\frac{1}{3}\right) = \left(\frac{1}{3}\right)^3 - \left(\frac{1}{3}\right)^2 - \frac{1}{3} + 1 =$$

$$\frac{1}{27}-\frac{1}{9}-\frac{1}{3}+1=\frac{1-3-9+27}{27}=\frac{16}{27}$$

$$F\left(\frac{1}{3};\frac{16}{27}\right)$$

TROVO L'EQ. DELLA RETTA TANGENTE NEL FLESSO, SI CHIAMA TANGENTE INFLESSIONALE

$$F'\left(\frac{1}{3}\right)=3\left(\frac{1}{3}\right)^2-2\left(\frac{1}{3}\right)-1=$$

$$\frac{3}{9}-\frac{2}{3}-1=\frac{3-6-9}{9}=-\frac{\cancel{12}\,4}{\cancel{9}\,3}$$

$$y=-\frac{4}{3}x+Q$$

$$\frac{16}{27}=-\frac{4}{3}\left(\frac{1}{3}\right)+Q \Rightarrow \frac{16}{27}=-\frac{4}{9}+Q$$

$$Q=\frac{16}{27}+\frac{4}{9}=\frac{16+12}{27}=\frac{28}{27}$$

$$y=-\frac{4}{3}x+\frac{28}{27}$$