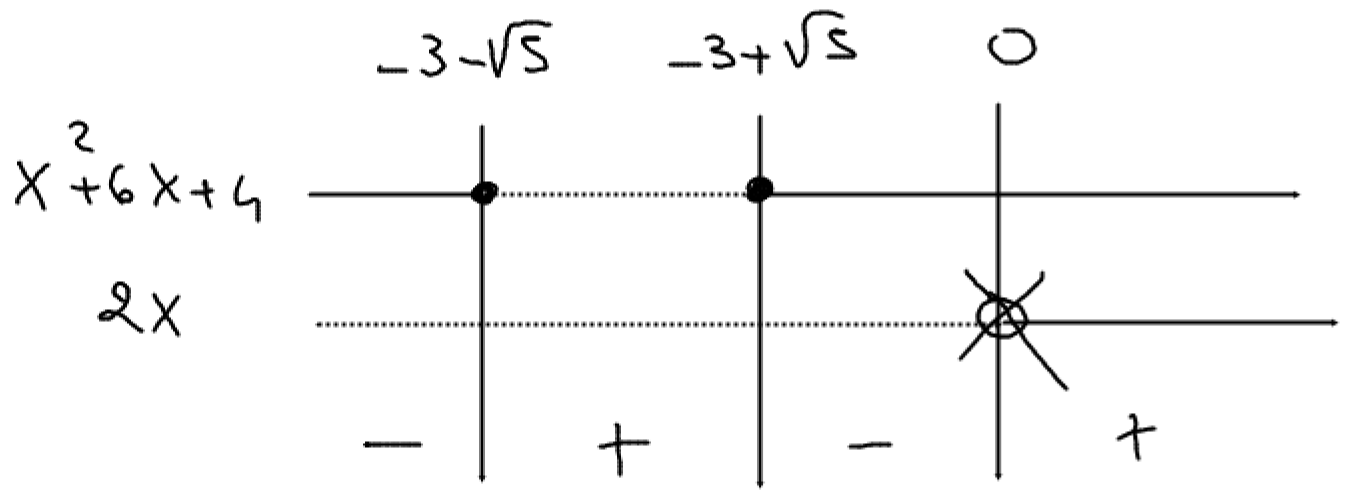
$$y=\frac{x^2+6x+4}{2x}$$

$D=\{\forall x\in\mathbb{R}: x\neq 0\}$

$D=\,]-\infty;0[\,\cup\,]0;+\infty[$

$$x_{1,2}=\frac{-6\pm\sqrt{36-16}}{2}=\frac{-6\pm\sqrt{20}}{2}=\frac{-6\pm2\sqrt5}{2}=\frac{\cancel{2}(-3\pm\sqrt5)}{\cancel{2}}\begin{cases}-3-\sqrt5=\sim-5{,}24\\-3+\sqrt5=\sim-0{,}76\end{cases}$$



int. assi

$(-3-\sqrt5;0)$ $(-3+\sqrt5;0)$

asintoto vert.

$x=0$

ASINTOTO OBLIQUO

$$m=\lim_{x\to\infty}\frac{x^2+6x+4}{2x^2}=\frac{1}{2}$$

$$q=\lim_{x\to\infty}\left(\frac{x^2+6x+4}{2x}-\frac{1}{2}x\right)$$

$$y=\frac{1}{2}x+3$$

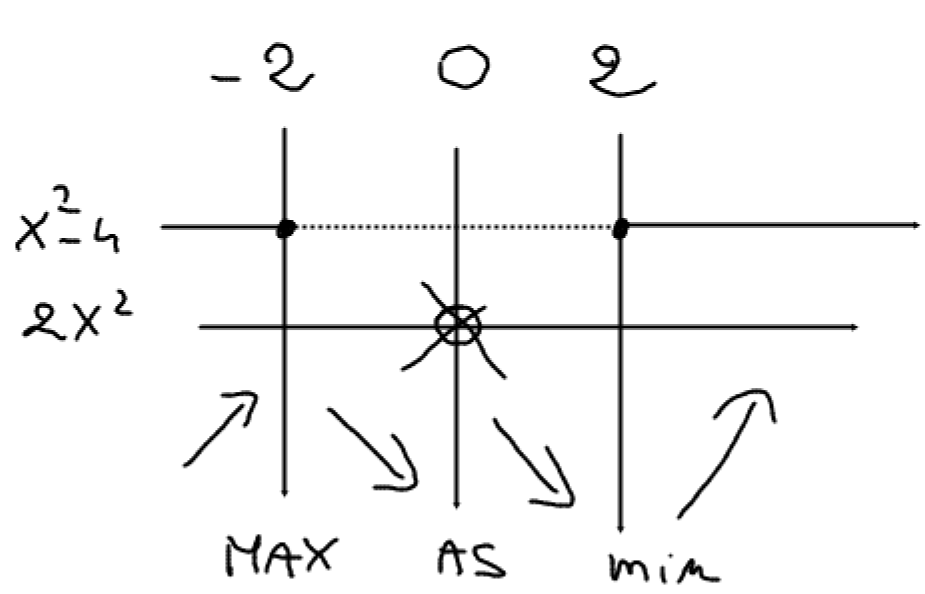
$$q=\lim_{x\to\infty}\left(\frac{\cancel{x^2}+6x+4-\cancel{x^2}}{2x}\right)$$

$$q=\lim_{x\to\infty}\frac{6x+4}{2x}=3$$

$$y=\frac{x^2+6x+4}{2x}\Rightarrow y'=\frac{(2x+6)2x-2(x^2+6x+4)}{4x^2}\Rightarrow$$

$$\Rightarrow y'=\frac{4x^2+12x-2x^2-12x-8}{4x^2}\Rightarrow y'=\frac{2x^2-8}{4x^2}=\frac{2(x^2-4)}{4x^2}$$

$$y'=\frac{x^2-4}{2x^2}$$



$$y_{MAX}=f(-2)=\frac{4-12+4}{-4}=1$$

$$y_{min}=f(2)=\frac{4+12+4}{4}=5$$

MAX $(-2;1)$

min $(2;5)$