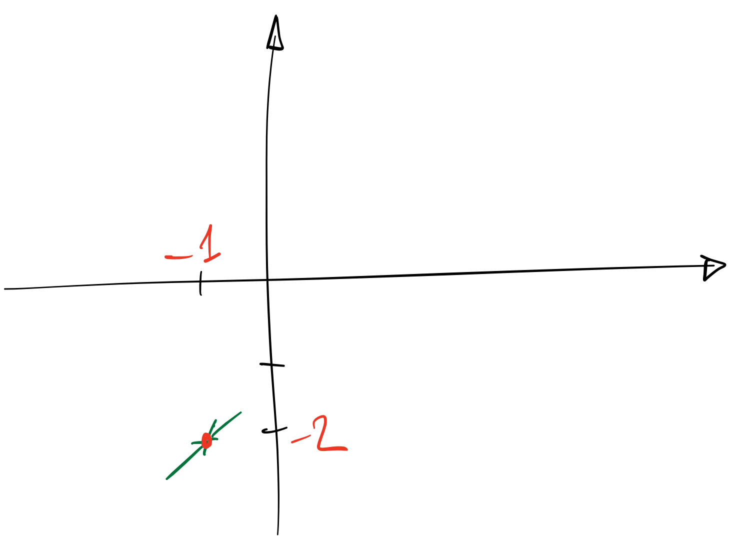
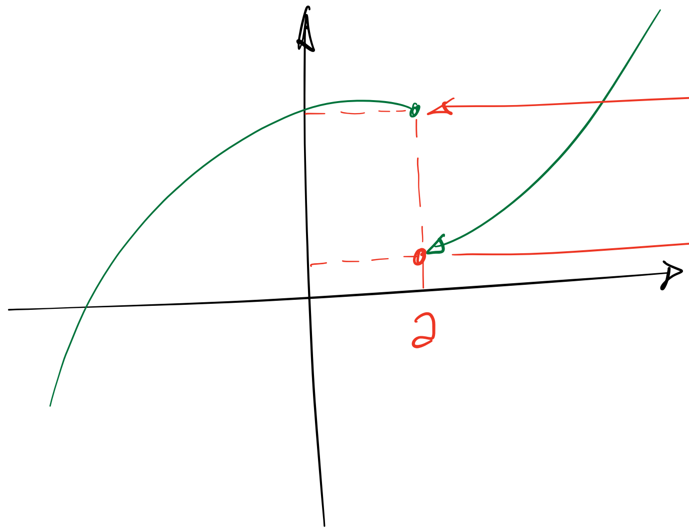
$$f(x) = \frac{x^2 - 1}{x+1} \qquad D_f = \mathbb{R} - \{-1\}$$

$$\lim_{x \to -1} f(x) = \left\langle\!\left\langle \frac{(-1)^2 - 1}{-1+1} \right\rangle\!\right\rangle = \left\langle\!\left\langle \frac{0}{0} \right\rangle\!\right\rangle \quad \text{Indéterminé}$$

$$= \lim_{x \to -1} \frac{\cancel{(x+1)}(x-1)}{\cancel{(x+1)}} = \lim_{x \to -1} (x-1)$$

$$= -2$$





$$\lim_{x \to a^-} f(x)$$

$$\lim_{x \to a^+} f(x)$$

$$\left(\ln\left(\frac{2x}{x+1}\right)\right)' = \frac{1}{\left(\frac{2x}{x+1}\right)} \cdot \left(\frac{2x}{x+1}\right)'$$

$$\left(f(g(x))\right)' = f'(g(x)) \cdot g'(x)$$

$$\left(\frac{f}{g}\right)' = \frac{f'g - fg'}{g^2}$$

$$\Big(\underbrace{(x^2-4x+4)}_{f}\cdot\underbrace{e^x}_{g}\Big)'$$

$$(f\cdot g)' = f'g + f\cdot g'$$

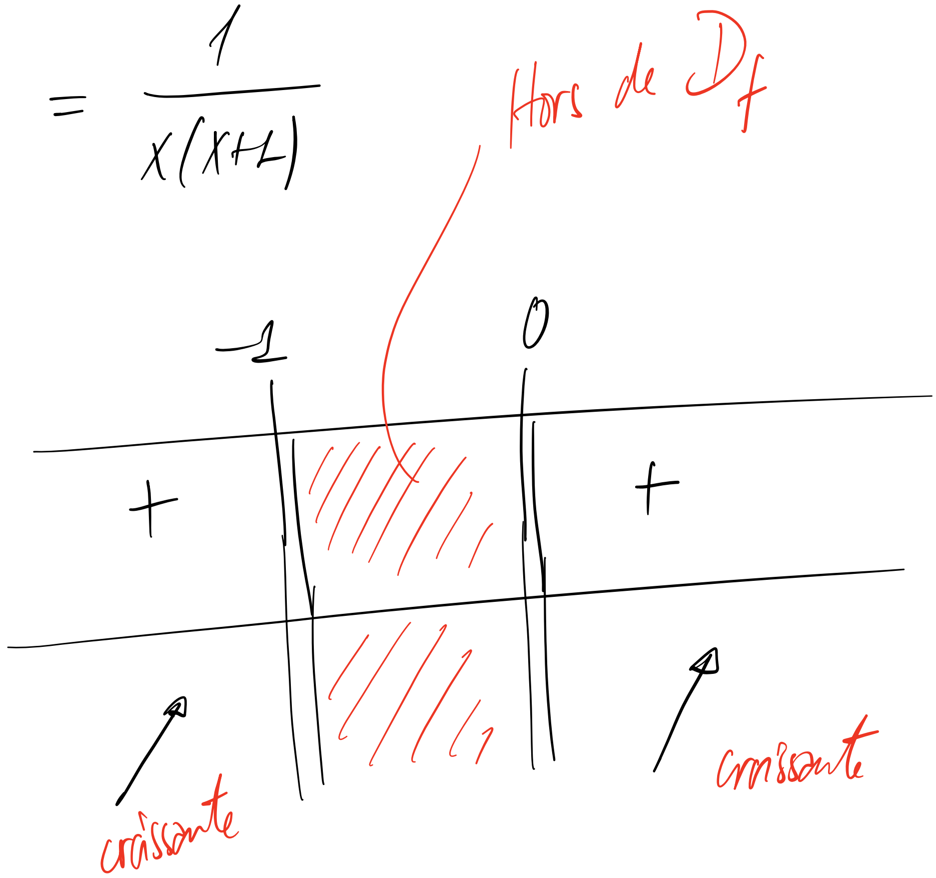
$$\left(\ln\left(\frac{2x}{x+1}\right)\right)' = \frac{1}{x(x+1)} = \frac{1}{x^2+x}$$

$$f''(x) = -\frac{1}{(x^2+x)^2}\cdot(2x+1) = -\frac{2x+1}{x^2(x+1)^2}$$

		-1		$-1/2$		0	
	$+$	$\|\|$	$+$	0	$-$	$\|\|$	$-$
	$\cup$	$\|\|$	$\cup$		$\cap$	$\|\|$	$\cap$

Hors de $D_f =]-\infty ; -1[\cup]0 ; +\infty[$

$$f'(x) = \frac{1}{x(x+1)}$$



~~max~~ ~~min~~ ~~palier~~