LICENCE ÉCONOMIE-GESTION
MATHÉMATIQUES
L1/S1, Année 2024/2025

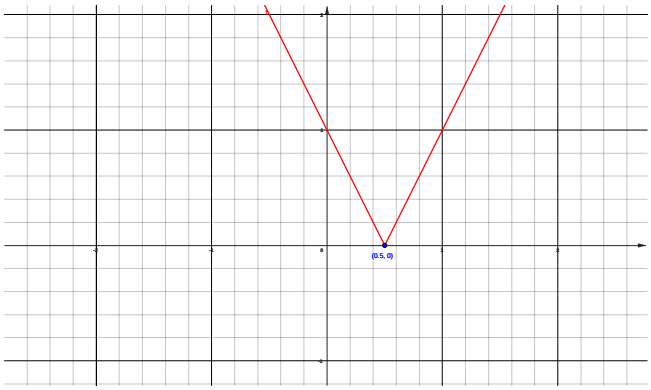
CC n°1 - CORRECTION

Exercice 1.

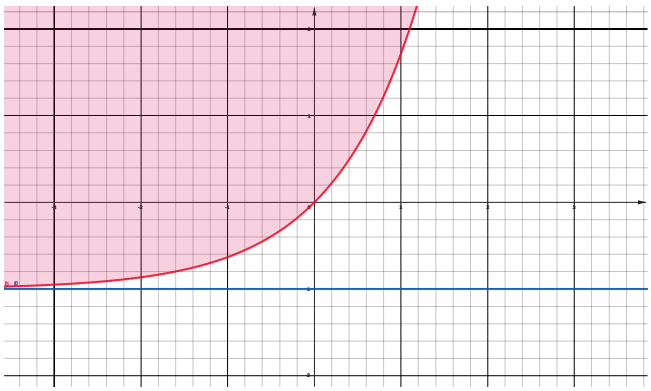
1. $\dfrac{2xy-3x}{x^2-4}-\dfrac{x+5}{x+2}=\dfrac{(2xy-3x)-(x+5)(x-2)}{x^2-4}=\dfrac{-x^2+2xy-6x+10}{x^2-4}$.
2. $x^3+2x^2-3=(x-1)(x^2+3x+3)$, et $\Delta=-3<0$.

Exercice 2.

1. $\{(x,y)\in\mathbb{R}^2 : y=|-2x+1|\}$



2. $\{(x,y)\in\mathbb{R}^2 : y\geq e^x-1\}$



Exercice 3. $f(x)=\ln\left(x^2-4x+3\right)+\sqrt{3-5x}$

- $3-5x\geq 0\Leftrightarrow x\in]-\infty;\frac{3}{5}[$
- $x^2-4x+3=(x-1)(x-3)$, donc $x^2-4x+3>0\Leftrightarrow x\in]-\infty;1[\cup]3;+\infty[$

Donc $D_f=]-\infty;\frac{3}{5}]$

Exercice 4. $g'(x)=(4x^3-6)e^{x^4-6x}$