
CC n°1 - CORRECTION

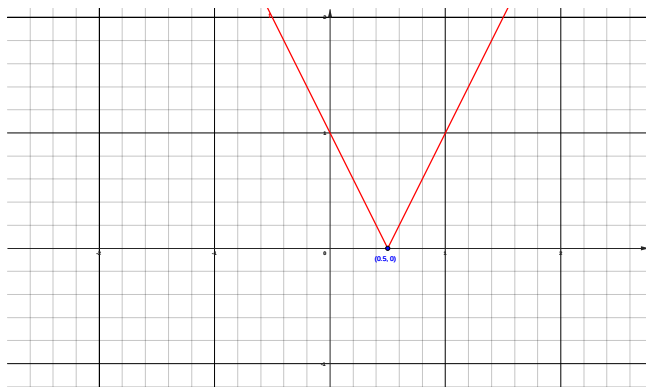
Exercice 1.

1.
$$\frac{2x - 3xy}{x^2 - 4} - \frac{3 + x}{x + 2} = \frac{(2x - 3xy) - (3 + x)(x - 2)}{x^2 - 4} = \frac{-x^2 - 3xy + x + 6}{x^2 - 4}.$$

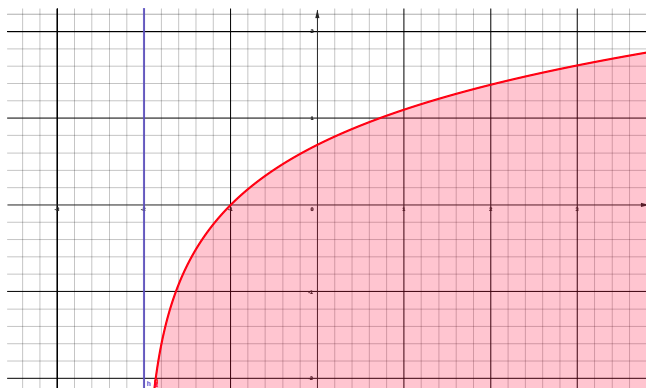
2. $x^3 + 2x^2 - 3 = (x - 1)(x^2 + 3x + 3)$, et $\Delta = -3 < 0$.

Exercice 2.

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



2. $\{(x, y) \in \mathbb{R}^2 : y \leq \ln(x + 2)\}$



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

• $x + \pi > 0 \Leftrightarrow x > -\pi$

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

x	$-\infty$	$-\pi$	1	3	$+\infty$	
$n(x)$	$-$	$+$	$+$	$+$		
$d(x)$	$+$	$+$	0	$-$	0	$+$
$f(x)$	$-$	$+$	0	$-$	0	$+$

Donc $D_f =]-\pi; 1[\cup]3; +\infty[$

Exercice 4. $g'(x) = (3x^2 - 12)e^{x^3 - 12x}$