5e B-C-D (Math 6h) : Corrigé du devoir.

1) $f(x) = \dfrac{1-2x}{x^2-x}$

a) $\mathrm{dom}\, f = \mathbb{R} \setminus \{0,1\}$

b) Racine de f : $x = \frac{1}{2}$

c) $f(0)$ n'existe pas

d) AV ? $\lim\limits_{\substack{x\to 0\\ <}} f(x) = "\frac{1}{0^\pm}" = \pm\infty$ $\quad AV_1 \equiv x = 0$

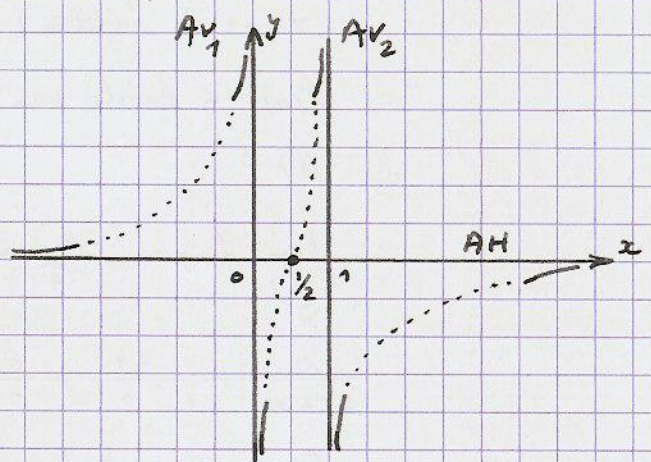
x		0		1	
x^2-x	$+$	0	$-$	0	$+$

$\lim\limits_{\substack{x\to 1\\ <}} f(x) = "\frac{-1}{0^\pm}" = \pm\infty$ $\quad AV_2 \equiv x = 1$

AH ? $\lim\limits_{x\to\pm\infty} f(x) = \lim\limits_{x\to\pm\infty} \dfrac{-2x}{x^2} = \lim\limits_{x\to\pm\infty} \dfrac{-2}{x} = 0^\mp$

Pas d'AO, car déjà AH pour $x \to \pm\infty$. $AH \equiv y = 0$.

e) Allure générale de G_f.



2) $f(x) = \dfrac{x^3}{1-x^2}$

a) $\mathrm{dom}\, f = \mathbb{R} \setminus \{-1,1\}$

b) Racine de f : $x = 0$

c) $f(0) = 0$

d) AV ? $\lim\limits_{\substack{x\to -1\\ <}} f(x) = "\frac{-1}{0^\pm}" = \pm\infty$ $\quad AV_1 \equiv x = -1$

$\lim\limits_{\substack{x\to 1\\ <}} f(x) = "\frac{1}{0^\pm}" = \pm\infty$ $\quad AV_2 \equiv x = 1$

x		-1		1	
$1-x^2$	$-$	0	$+$	0	$-$