TD série !

ex1:

1) $f_1(x) = \dfrac{x}{\sqrt{1+x^2} - \sqrt{1+x}}$

$\Rightarrow \sqrt{1+x^2} - \sqrt{1+x} \neq 0$

x should not be 0 or 1

$\Rightarrow x$ should not be $[-1[$

$\Leftrightarrow Df_1 = \left\{]-1 ; +\infty [\setminus (0,1) \right\}$

$\left(Df_1 = \left\{]-1 ; 0 [\cup] 0 ; 1 [\cup \right.\right.$

$\left.\left.]1 ; +\infty [\setminus (0,1) \right\} \right)$

2) $f_2(x) = \ln\left(1 + x^3\right) + x - 1$

$Df_2 = \left\{]-1 ; +\infty [\right\}$

3) $f_3(x) = \dfrac{\ln(x)}{E(x^2) - 4} \leftarrow 0$

$\Rightarrow x$ doit être $\neq 2$.

$\Leftrightarrow Df_3 = \left\{]0 ; +\infty [\setminus (2, -2) \right\}$

$$f_4(x) = \sqrt{|x+2|} - |2x-4|$$

$$\Leftrightarrow |x+2| - |2x-4| \geq 0 \cdot -$$

$$\Longrightarrow |x+2| = |2x-4|$$

$$\Longrightarrow x+2 = 2x-4$$

$$\Longrightarrow x = 2x - 4 - 2$$

$$\Longrightarrow x = 2x - 6 \quad —$$

$$\lim_{0} \frac{x - \ln(1+x)}{x}$$

$$\Leftrightarrow x\left(\frac{1 - \ln(1+x)}{x}\right)$$