$f : \mathbb{R} \to \mathbb{R}$

ÉTUDE

$\mathcal{D}_f$, zéros, signe

Asymptotes

Croissance

Courbure

Graphe

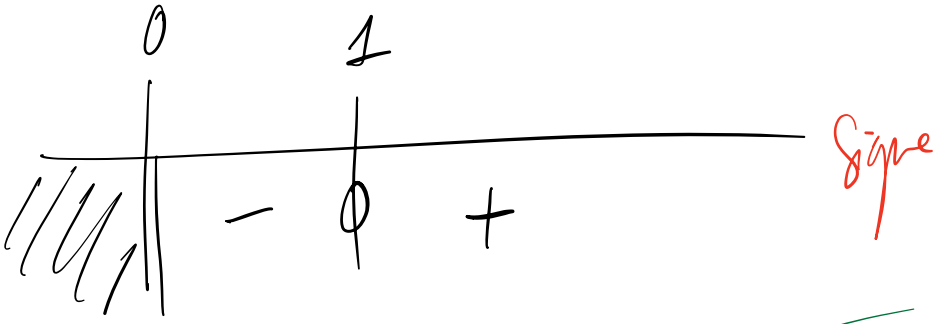
$\ln : \mathbb{R} \longrightarrow \mathbb{R}$

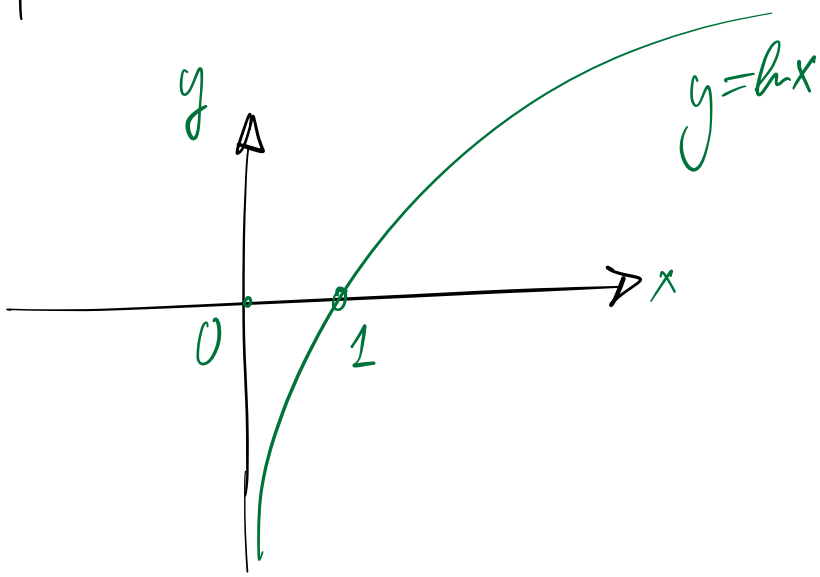
$\ln(x)$ existe pour quels x ?

$\mathcal{D} =]0; +\infty[$ ED

$\ln(x) = u \Leftrightarrow e^u = 0$ ↓

Zéros : $\ln(x) = 0 \Leftrightarrow x = 1$ Zéros





$\lim_{\substack{x \to 0 \\ >}} \ln x = -\infty$

A.V. en $x = 0$ d'droite

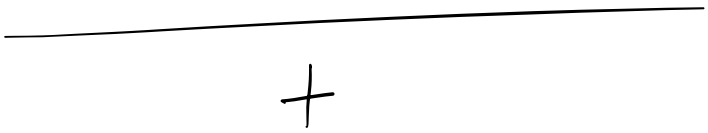
$\mathbb{R} \longrightarrow \mathbb{R}$

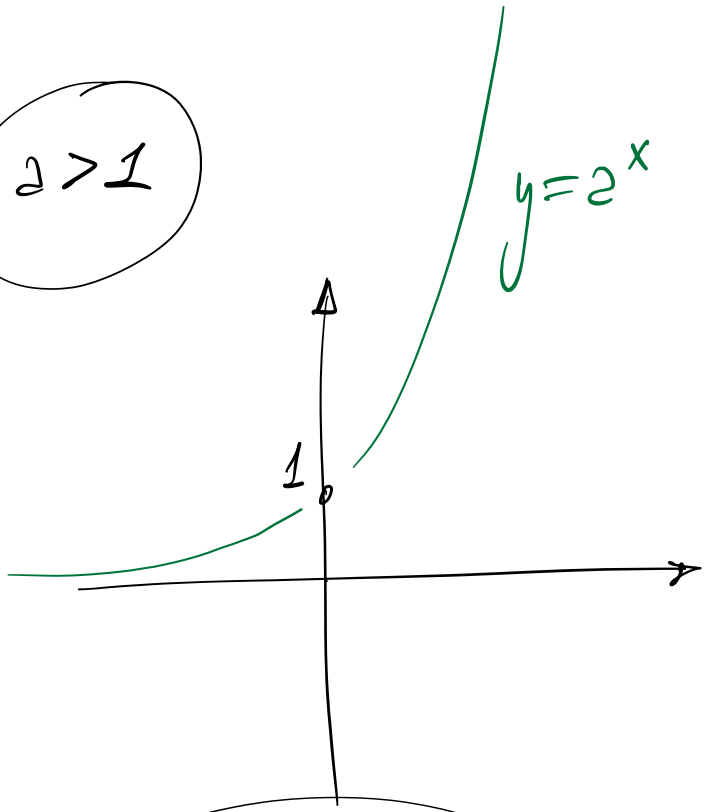
$x \longmapsto a^x$ avec $a > 1$

$\mathcal{D} = \mathbb{R}$

zéros : Y'en a pas.

Signe :

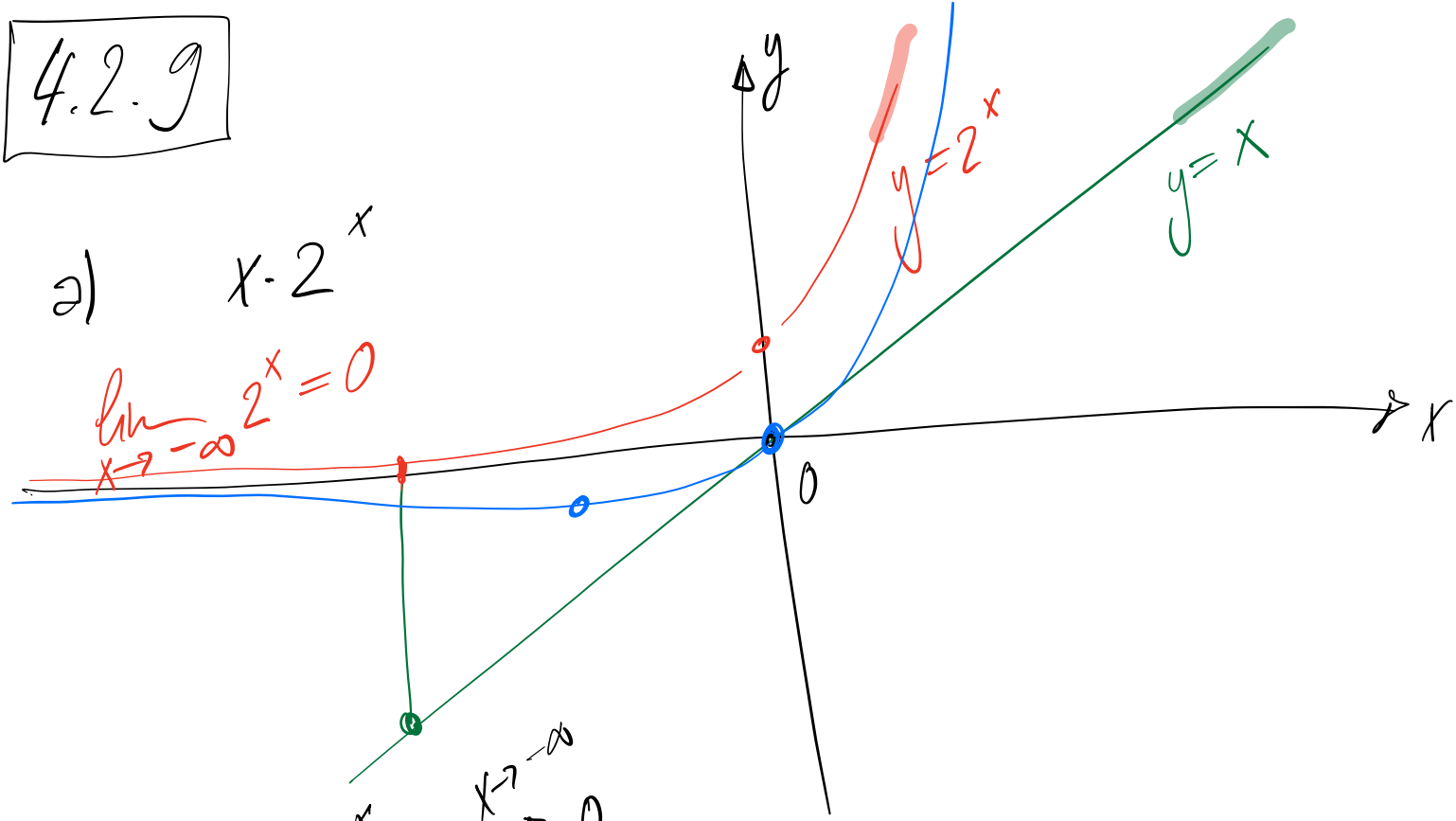




$\lim_{x \to -\infty} a^x = 0$

4.2.9

a) $x \cdot 2^x$



$\lim_{x \to -\infty} 2^x = 0$

$x \cdot 2^x \xrightarrow{x \to -\infty} 0$

$x \cdot 2^x$

$(-\infty) \cdot 0$ IND.