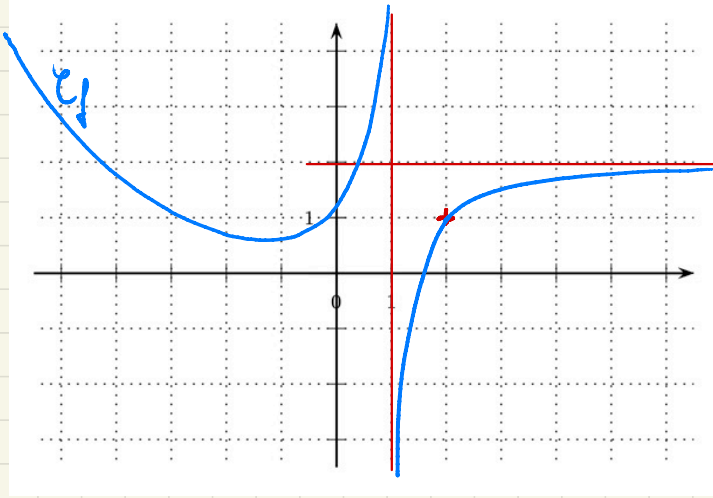


INTERRO N°10

① Voir cours

②



③ a) $\lim_{x \rightarrow -\infty} \frac{3x^2 - 5x}{x^2 + 4x^4} = \lim_{x \rightarrow -\infty} \frac{3x^2}{4x^4} = \lim_{x \rightarrow -\infty} \frac{3}{4x^2} = 0$

b) $\left. \begin{array}{l} \lim_{x \rightarrow +\infty} x^2 + 1 = +\infty \\ \lim_{x \rightarrow +\infty} e^x = 0^+ \end{array} \right\} \text{Par produit de limites:}$

$\lim_{x \rightarrow +\infty} \frac{x^2 + 1}{e^x} = +\infty$

c) On a $(x^2 - 5)e^x = x^2 \left(\frac{x^2}{x^2} - \frac{5}{x^2} \right) e^x = x^2 \left(1 - \frac{5}{x^2} \right) e^x = x^2 e^x \left(1 - \frac{5}{x^2} \right)$

$\lim_{x \rightarrow -\infty} x^2 e^x = 0$ (Par théorème des croissances comparées)

$\lim_{x \rightarrow -\infty} 1 - \frac{5}{x^2} = 1$

Par produit de limites:

$\lim_{x \rightarrow -\infty} x^2 e^x \left(1 - \frac{5}{x^2} \right) = 0$