

n° 77

2 1) c)  $g(x) = x^2 e^{-x^2}$

$$g(x) = \frac{x^2}{e^{x^2}}$$

$$\left. \begin{array}{l} \lim_{x \rightarrow -\infty} x^2 = +\infty \\ \lim_{x \rightarrow -\infty} e^{x^2} = 0 \end{array} \right\} \lim_{x \rightarrow -\infty} g(x) = +\infty$$

~~$\lim_{x \rightarrow +\infty} g(x) = x \times \frac{x}{e^x}$~~

$$\left. \begin{array}{l} \lim_{x \rightarrow +\infty} x^2 = +\infty \\ \lim_{x \rightarrow +\infty} e^{x^2} = +\infty \end{array} \right\} \text{FI}$$

$$g(x) = \frac{x}{e^x} \times \frac{x}{e^x}$$

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

donc  $\lim_{x \rightarrow +\infty} g(x) = +\infty$