

calcolare il dominio della funzione $F(x) = \int_{x^2}^{x^2 + 1/2} \frac{e^{-t^2}}{t^2 - 1} dt$ compreso tra x^2 e $x^2 + 1/2$

$$F(x) = \int_{x^2}^{x^2 + 1/2} \frac{e^{-t^2}}{t^2 - 1} dt$$

$$\int_1^2 \frac{e^{-t^2}}{t^2 - 1} dt \quad t - 1 = z \quad t = z + 1$$

$$\int_0^1 \frac{e^{-(z+1)^2}}{z^2 + 2z} dz \geq e^{-1} \int_0^1 \frac{1}{z^2 + 2z} dz = +\infty$$

$$\begin{cases} x^2 + \frac{1}{2} < 1 & x^2 < \frac{1}{2} \leadsto -\frac{\sqrt{2}}{2} < x < \frac{\sqrt{2}}{2} \\ x^2 > 1 & \leadsto |x| > 1 \end{cases}$$