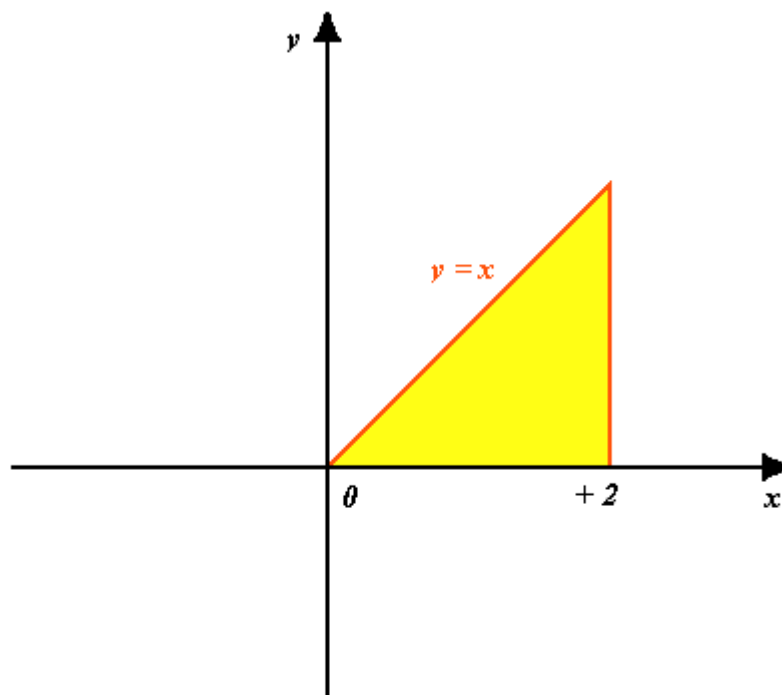


Calcolare l'integrale doppio

$$\iint_D (y - y^4) dx dy$$

$$\text{con } D = \{ (x, y) \in \mathbb{R}^2 : 0 \leq x \leq 2, \quad 0 \leq y \leq x \}$$



Considerando il dominio normale a  $x$  si ha :

$$\iint_D (y - y^4) dx dy = \int_0^2 dx \int_0^x (y - y^4) dy = \int_0^2 dx \left[ \frac{y^2}{2} - \frac{y^5}{5} \right]_0^x = \int_0^2 \left( \frac{x^2}{2} - \frac{x^5}{5} \right) dx = \left[ \frac{x^3}{6} - \frac{x^6}{30} \right]_0^2 = -\frac{4}{5}$$