

$$\int_{\Pi} x y^2 dx dy$$

$$\Pi = \{(x, y) \in \mathbb{R}^2 : 1 \leq x \leq 2, 2 \leq y \leq 3\}$$

$$\int_D \frac{1}{xy} dx dy$$

$$D \subset \mathbb{R}^2 \text{ compres fra } y=x$$

 $y=2x \text{ e } 4x^2+y^2=4 \quad 4x^2+y^2=16$

$$\int_A \frac{\ln y}{x} dx dy$$

$$D \subset \mathbb{R}^2 \text{ compres fra } y=\ln x$$

 $y=\ln x+2, y=-\ln x, y=4-\ln x$

$$\int_C x y dx dy$$

$$C \text{ e } (1,0) \text{ e } \text{range } 1)$$

$$\int_{\gamma} x ds$$

$$\gamma: y=x^2 \quad 0 \leq x \leq a$$

$$\int_{\gamma} x^2 ds$$

$$\gamma: y=x^2+\ln x \quad 1 \leq x \leq 2$$

$$\int_{\gamma} \sqrt{1-y^2} ds$$

$$\gamma: x=\cos t, y=\sin t \quad 0 \leq t \leq \pi$$

$$\int_{\gamma} \frac{y}{\sqrt{x^2+y^2}} ds$$

$$\gamma: x=\cos^3 t, y=\cos^2 t \sin t$$

 $0 \leq t \leq \pi/2$

Calcolare le integrali di $D \subset \mathbb{R}^2$ tale che

$$D = \left\{ (x, y) \in \mathbb{R}^2 \mid -\pi/4 \leq \varphi \leq \pi/4, \quad e \leq \rho \leq \frac{a \sqrt{\cos 2\varphi}}{\cos \varphi} \right\}$$

(ρ, φ) coordinate polari.

$$\int_E \frac{dx dy}{x^2 y}$$

$$E \subset \mathbb{R}^2 \text{ da } y=x, y=2x, y+x=2$$

$$y+2x=2$$

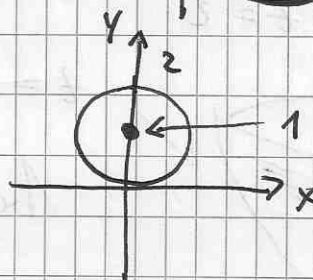
$$\int_B x^2 \arctan(x^2 + y^2) dx dy$$



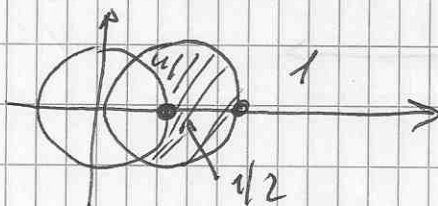
$$\int_C (x^2 + y^2) dx dy$$



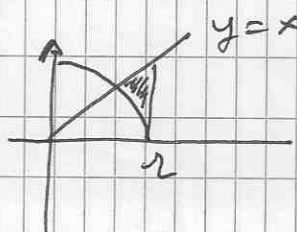
$$\int_C (y - x^2) dx dy$$

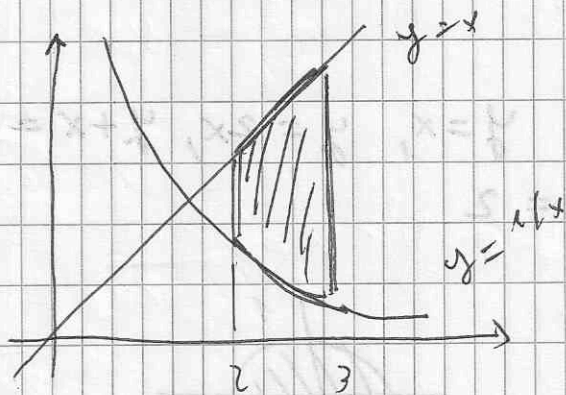
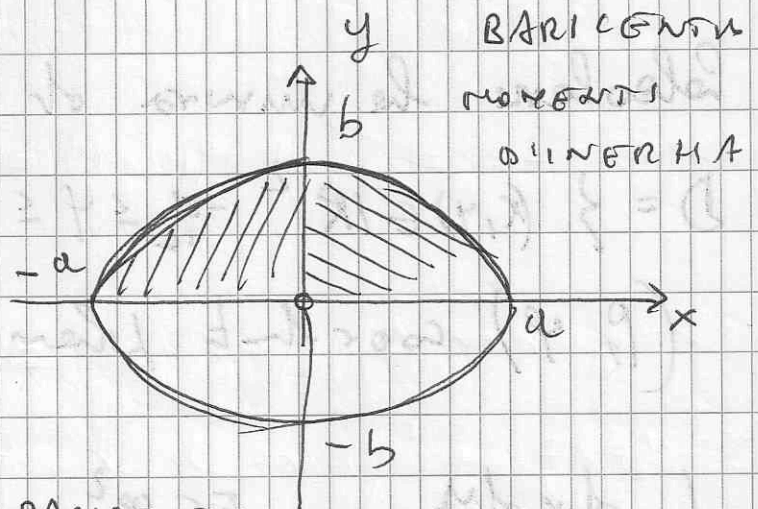
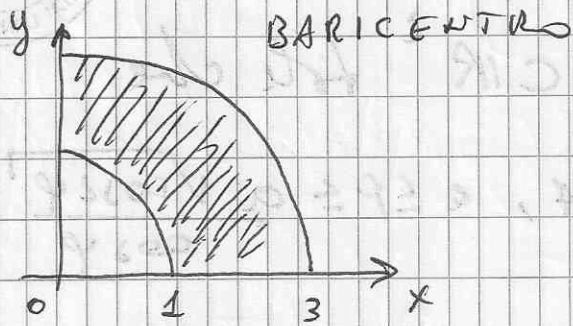
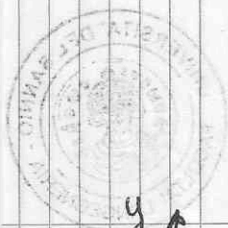


$$\int_B \frac{dx dy}{\sqrt{1-x^2-y^2}}$$



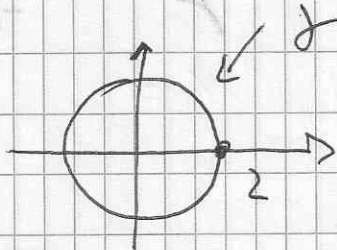
$$\int_B \frac{x}{x^2 + y^2} dx dy$$



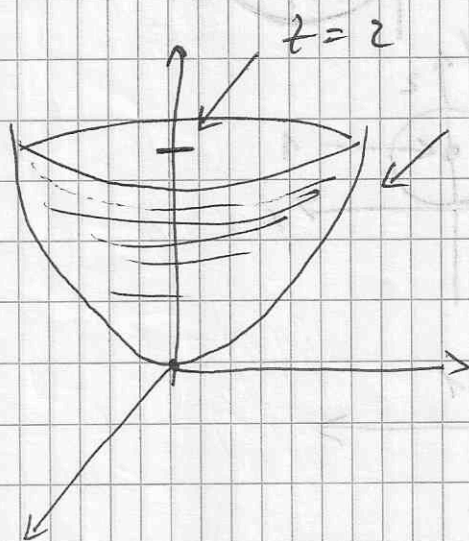
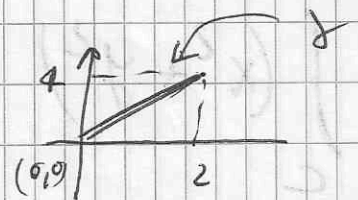


BARICENTRO
MOMENTI D'INERZIA

$$\int_{\gamma} x^2 y \, ds$$



$$\int_{\gamma} \sqrt{x+2y} \, ds$$



$$z = x^2 + y^2$$

Area per livello.