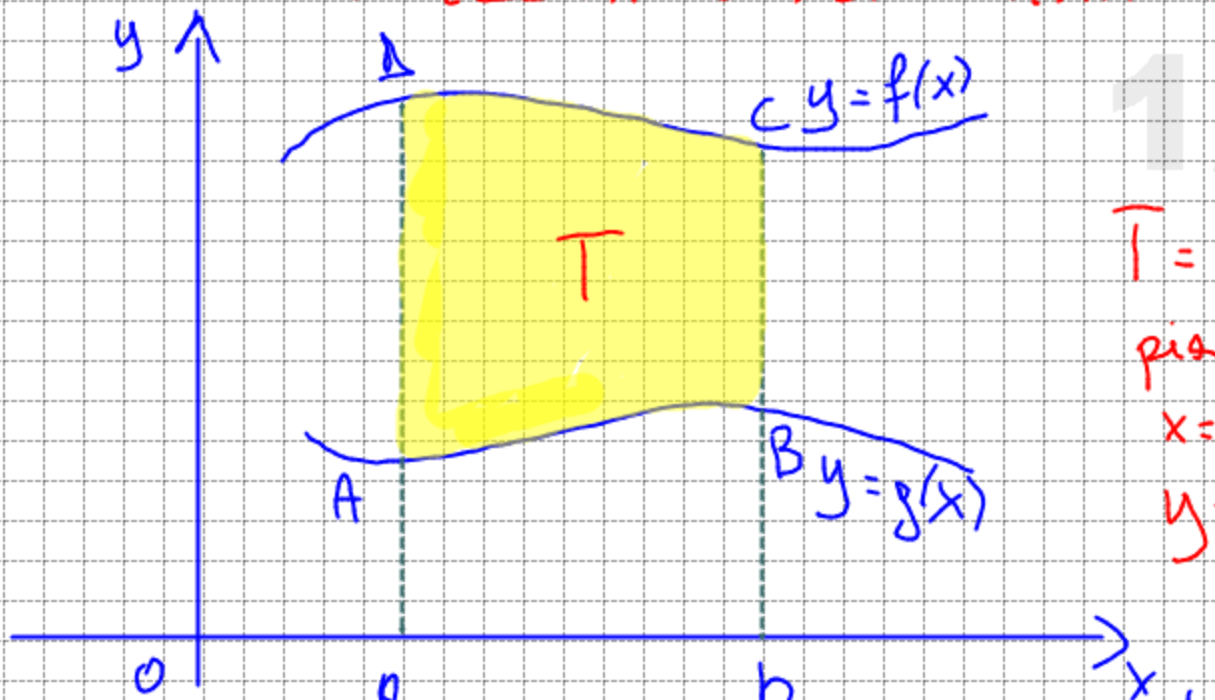
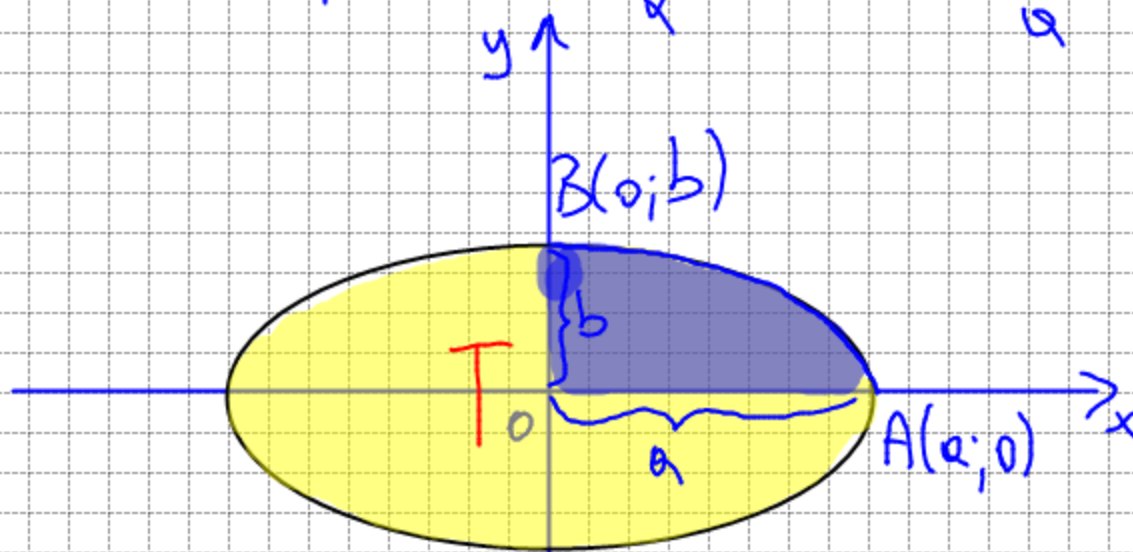


CALCOLO DELLE AREE DEI DOMINI PIANI



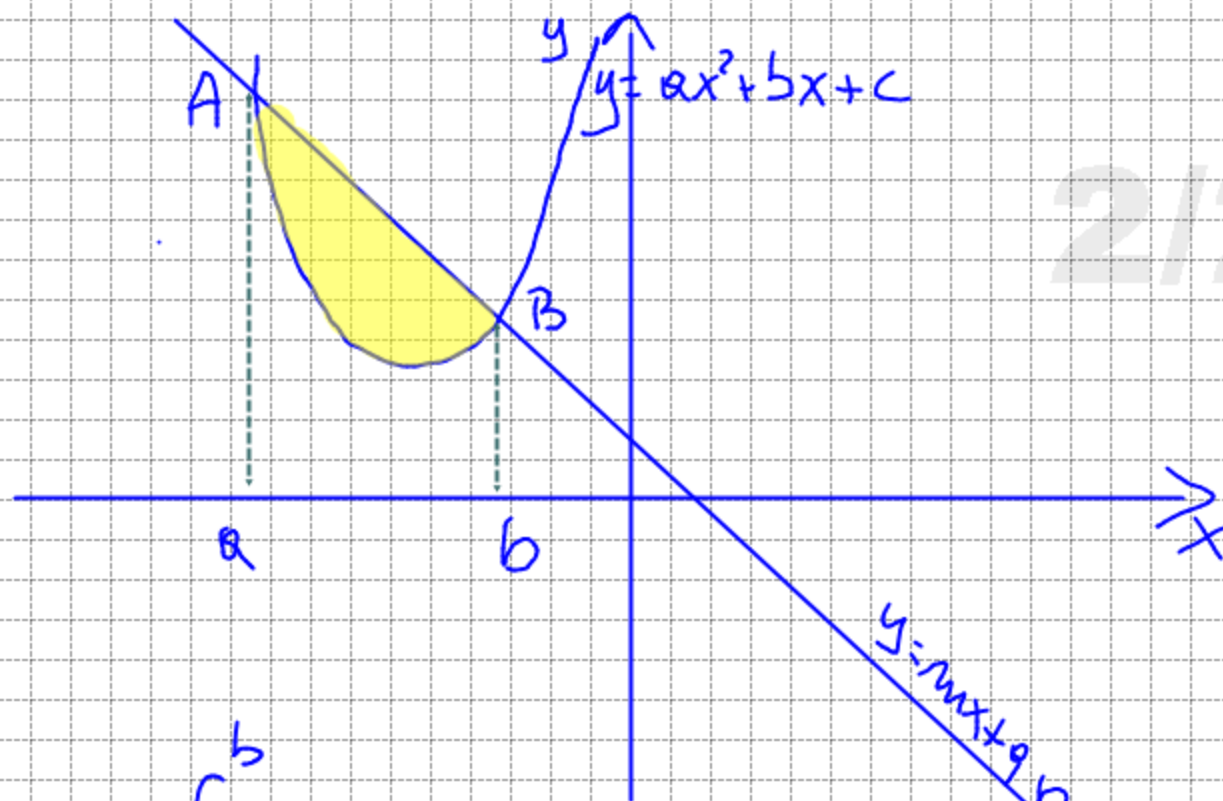
T = area regione di piano delimitata da $x=a$, $x=b$ e $y=f(x)$ e $y=g(x)$

$$Q_{ABCD} = \int_a^b f(x) dx - \int_a^b g(x) dx = \int_a^b (f(x) - g(x)) dx$$



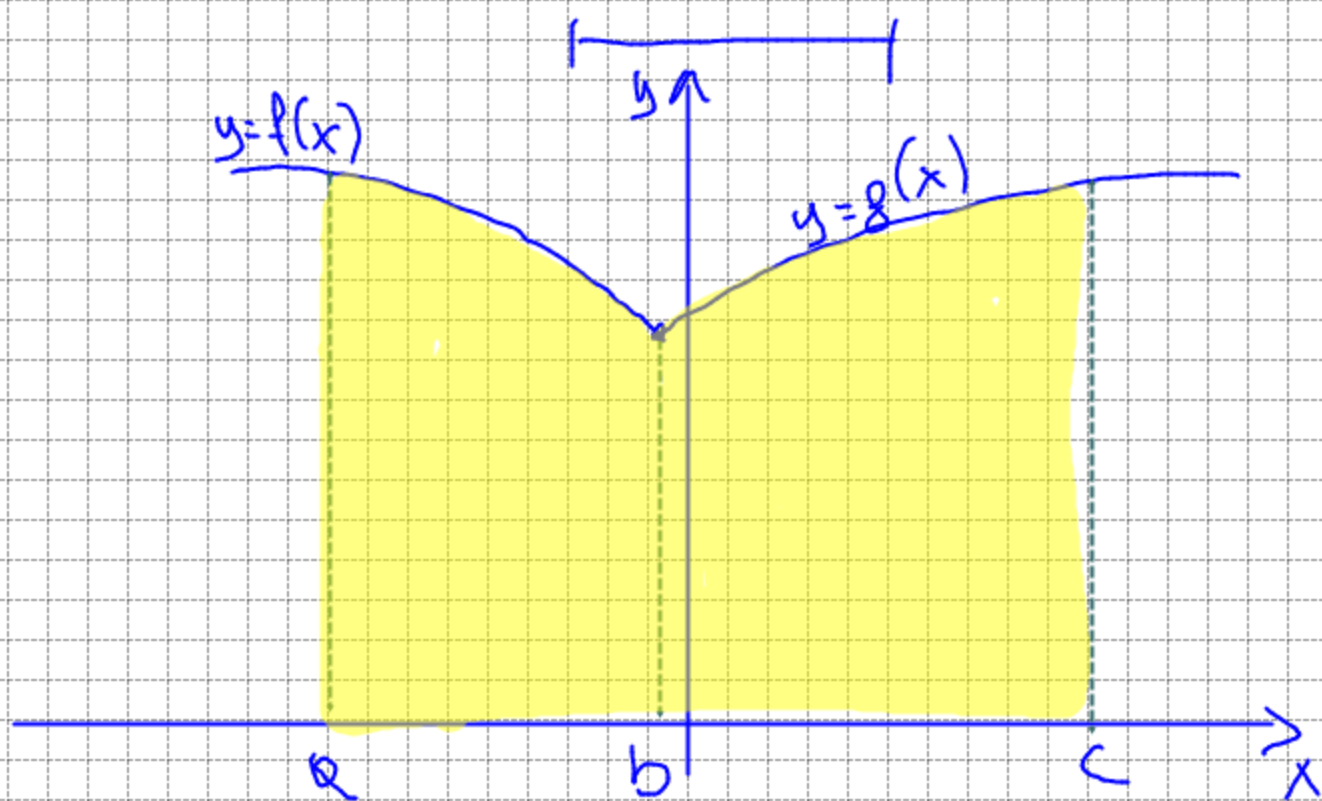
$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1 \quad y = \pm \sqrt{\left(1 - \frac{x^2}{a^2}\right) b^2} \Rightarrow y = \pm b \sqrt{1 - \frac{x^2}{a^2}}$$

$$Q_E = 4 \int_0^a b \sqrt{1 - \frac{x^2}{a^2}} dx = \pi ab$$



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$$Q = \int_a^b (mx + q - ax^2 - bx - c) dx = \int_a^b -ax^2 dx + \int_a^b (m-b)x dx + \int_a^b (q-c) dx = \left[-\frac{ax^3}{3} + (m-b)\frac{x^2}{2} + (q-c)x \right]_a^b$$



$$Q = \int_a^b f(x) dx + \int_b^c g(x) dx.$$