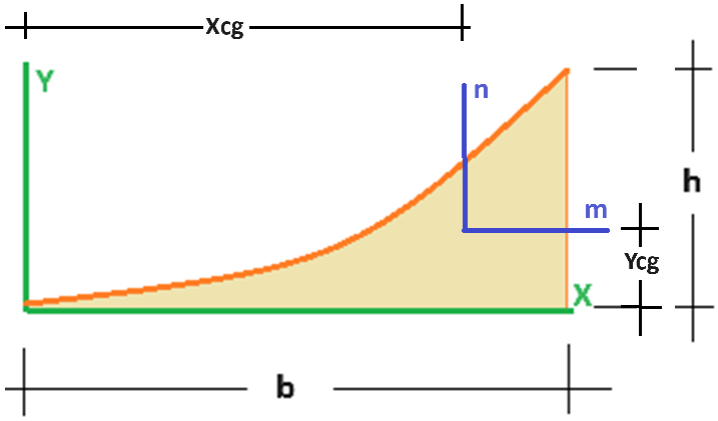

#1: [CaseMode := Sensitive, InputMode := Word, TimesOperator := Asterisk]

Funciones respecto a los ejes X e Y:

#2: $f(x) := c1 + c2*x + c3*x^2$

#3:
$$\begin{bmatrix} f(0) = 0 \\ f(b) = h \\ f'(0) = 0 \end{bmatrix}$$

#4:
$$\begin{bmatrix} c1 = 0 \\ b^2*c3 + b*c2 + c1 = h \\ c2 = 0 \end{bmatrix}$$

#5:
$$\left[c1 = 0 \wedge c2 = 0 \wedge c3 = \frac{h}{b^2} \right]$$

#6: $f(x) := \frac{h}{b^2}*x^2$

#7: $g(y) := \sqrt{\left(\frac{b^2}{h}*y \right)}$

Inercia respecto a los ejes X e Y:

#8: $Ix = \int y^2 \, dA$

#9: $Ix = \int_0^b \int_0^{f(x)} y^2 \, dy \, dx$

#10:
$$Ix = \frac{b*h^3}{21}$$

#11: $Iy = \int x^2 \, dA$

#12: $Iy = \int_0^h \int_{g(y)}^b x^2 \, dx \, dy$

#13: $$Iy = \frac{b^3 * h}{5}$$

#14: $Ixy = \int x*y \, dA$

#15: $$Ixy = \int_0^b \int_0^{f(x)} x*y \, dy \, dx$$

#16: $$Ixy = \frac{b^2 \, h^2}{12}$$

Funciones respecto a los ejes centroidales m y n:

#17: $[m = x - Xcg, \; n = y - Ycg]$

#18: $$n + Ycg = \frac{h}{b^2} * (m + Xcg)^2$$

#19: $$j(m) := \frac{h}{b^2} * m^2 + \frac{2 * Xcg * h}{b^2} * m + \frac{Xcg^2 * h - Ycg * b^2}{b^2}$$

#20: $$m + Xcg = \sqrt{\left(\frac{b^2}{h} * (n + Ycg) \right)}$$

#21: $$k(n) := b * \sqrt{\left(\frac{Ycg + n}{h} \right)} - Xcg$$

Área:

#22: $$A := \int_0^b \int_0^{f(x)} 1 \, dy \, dx$$

#23: $$A := \frac{b*h}{3}$$

Centroide (Xcg,Ycg):

#24: $$Ycg := \frac{1}{A} * \int_0^b \int_0^{f(x)} y \, dy \, dx$$

#25: $$Ycg := \frac{3*h}{10}$$

#26: $$Xcg := \frac{1}{A} * \int_0^h \int_{g(y)}^b x \, dx \, dy$$

#27: $$Xcg := \frac{3*b}{4}$$

Inercia respecto a los ejes centroidales m y n:

#28: $Im = \int n^2 \, dA$

#29: $Im = \int_{-Xcg}^{b - Xcg} \int_{-Ycg}^{j(m)} n^2 \, dn \, dm$

#30: $Im = \frac{37 * b * h^3}{2100}$

#31: $In = \int_{-Ycg}^{h - Ycg} \int_{k(n)}^{b - Xcg} m^2 \, dm \, dn$

#32: $In = \frac{b^3 * h}{80}$

#33: $Imn = \int m * n \, dA$

#34: $Imn = \int_{-Xcg}^{b - Xcg} \int_{-Ycg}^{j(m)} m * n \, dn \, dm$

#35: $Imn = \frac{b^2 * h^2}{120}$

Ver https://clasesdemecanica.net/index.php/momentos-de-inercia/#:~:text=El%20producto%20de%20inercia%20del,ser%20positivo%2C%20negativo%20o%20cero.