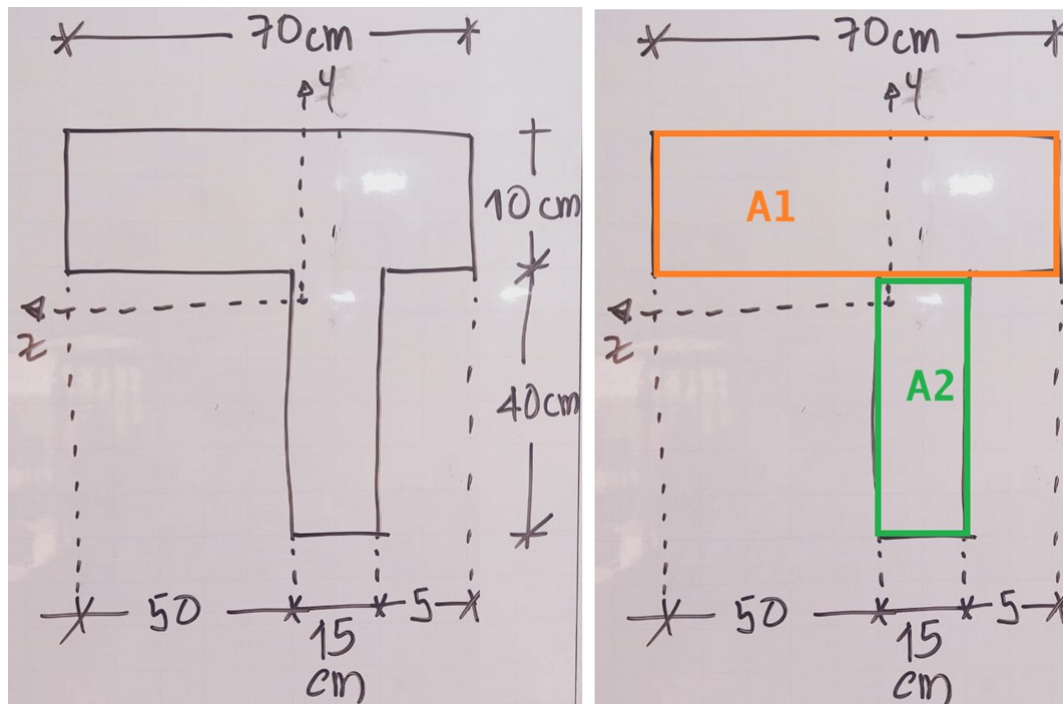




#1: [CaseMode := Sensitive, InputMode := Word, Notation := Decimal]

Datos de las subáreas:

#2:

$$\left[\begin{array}{ll} A1 := 70 \cdot 10 & A2 := 15 \cdot 40 \\ Y_{cg1} := 40 + 5 & Y_{cg2} := 20 \\ Z_{cg1} := 35 & Z_{cg2} := 50 + \frac{15}{2} \\ I_{z1} := \frac{1}{12} \cdot 70 \cdot 10^3 & I_{z2} := \frac{1}{12} \cdot 15 \cdot 40^3 \\ I_{y1} := \frac{1}{12} \cdot 10 \cdot 70^3 & I_{y2} := \frac{1}{12} \cdot 40 \cdot 15^3 \end{array} \right]$$

#3:

$$\left[\begin{array}{ll} A1 := 700 & A2 := 600 \\ Y_{cg1} := 45 & Y_{cg2} := 20 \\ Z_{cg1} := 35 & Z_{cg2} := \frac{115}{2} \\ I_{z1} := \frac{17500}{3} & I_{z2} := 80000 \\ I_{y1} := \frac{857500}{3} & I_{y2} := 11250 \end{array} \right]$$

$$\#4: \begin{bmatrix} A1 := 700 & A2 := 600 \\ Ycg1 := 45 & Ycg2 := 20 \\ Zcg1 := 35 & Zcg2 := 57.5 \\ Iz1 := 5833.333333 & Iz2 := 80000 \\ Iy1 := 285833.3333 & Iy2 := 11250 \end{bmatrix}$$

Centroide:

$$\#5: \left[Ycg := \frac{A1 \cdot Ycg1 + A2 \cdot Ycg2}{A1 + A2}, Zcg := \frac{A1 \cdot Zcg1 + A2 \cdot Zcg2}{A1 + A2} \right]$$

$$\#6: [Ycg := 33.46153846, Zcg := 45.38461538]$$

$$\#7: \left[Ycg := \frac{435}{13}, Zcg := \frac{590}{13} \right]$$

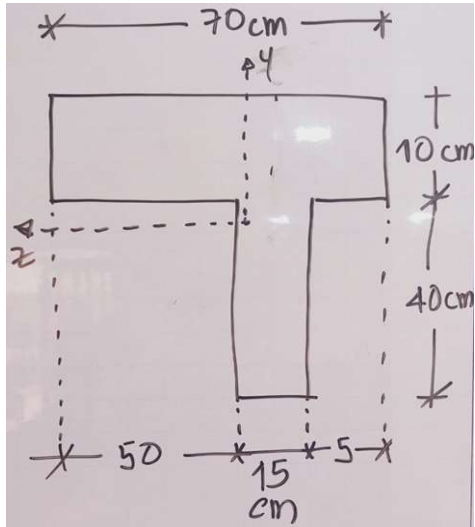
Inercia centroidal de la figura completa:

$$\#8: \begin{bmatrix} Iycg1 := Iy1 + (Zcg1 - Zcg)^2 \cdot A1 & Iycg2 := Iy2 + (Zcg2 - Zcg)^2 \cdot A2 \\ Izcg1 := Iz1 + (Ycg1 - Ycg)^2 \cdot A1 & Izcg2 := Iz2 + (Ycg2 - Ycg)^2 \cdot A2 \\ Iycg := Iycg1 + Iycg2 & Izcg := Izcg1 + Izcg2 \end{bmatrix}$$

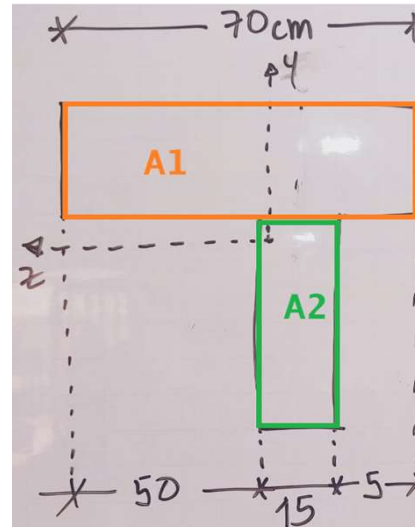
$$\#9: \begin{bmatrix} Iycg1 := 1.04071499 \cdot 10^5 & Iycg2 := 8.835077662 \cdot 10^4 \\ Izcg1 := 9.90285996 \cdot 10^4 & Izcg2 := 1.140611439 \cdot 10^5 \\ Iycg := 1.924222756 \cdot 10^5 & Izcg := 2.130897435 \cdot 10^5 \end{bmatrix}$$

$$\#10: \begin{bmatrix} Iycg1 := 3.613214990 \cdot 10^5 & Iycg2 := 9.931952662 \cdot 10^4 \\ Izcg1 := 9.902859960 \cdot 10^4 & Izcg2 := 1.887278106 \cdot 10^5 \\ Iycg := 4.606410256 \cdot 10^5 & Izcg := 2.877564102 \cdot 10^5 \end{bmatrix}$$

$$\#11: \begin{bmatrix} Iycg1 := 361321.4 & Iycg2 := 99319.5 \\ Izcg1 := 99028.5 & Izcg2 := 188727.8 \\ Iycg := 460641.0 & Izcg := 287756.4 \end{bmatrix}$$



División en subáreas:



Subárea #	Llena o hueco	Lx (cm)	Ly (cm)	A (cm ²)	Xcg individual (cm)	Ycg individual (cm)	A*Xcg (cm ³)	A*Ycg (cm ³)	Ix cg individual (cm ⁴)	Iy cg individual (cm ⁴)	Im respecto al cg total (cm ⁴)	In respecto al cg total (cm ⁴)	Ix (cm ⁴)	Iy (cm ⁴)
1	1	70.00	10.00	700.00	35.00	45.00	24 500	31 500	5 833	285 833	99 029	361 321	1 423 333	1 143 333
2	1	15.00	40.00	600.00	57.50	20.00	34 500	12 000	80 000	11 250	188 728	99 320	320 000	1 995 000
Toda la figura A1-A2:				1 300.00	45.38	33.46	59 000	43 500			287 756	460 641	1 743 333	3 138 333