

CENTROS DE GRAVEDAD

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ARQ. PEDRO ALBERTO GARCIA

LOPEZ

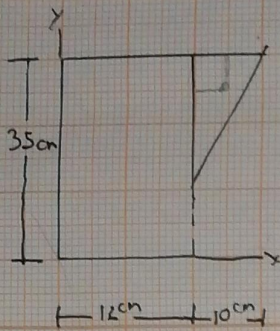
3ER. CUATRIMESTRE

ESTÁTICA PARA LA

ARQUITECTURA

10 DE JUNIO DEL 2023





$$\textcircled{1} 12\text{cm} \times 35\text{cm} = 420\text{cm}^2$$

$$y_1 = 35/2 = 17.5\text{cm}$$

$$x = 12 \times 2 = 6\text{cm}$$

$$\textcircled{2} 28\text{cm} \times 10\text{cm} / 2 = 140$$

$$y = 28/3 \cdot 2 = 18.66 + 7\text{cm}$$

$$x = 10 \cdot 3 = 3.333 + 12$$

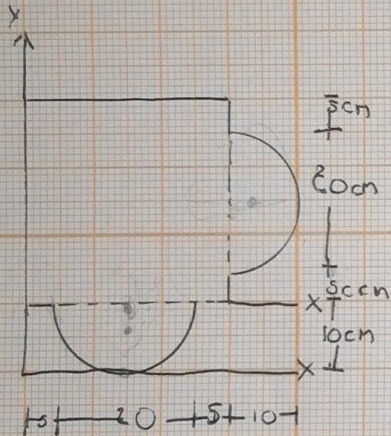
centroide c_{nx}

$$\frac{420\text{cm}^2 (6) + 140\text{cm}^2 (15.33)}{420 + 140} = 8.3325\text{ cm}$$

$$420 + 140$$

$$\frac{420(17.5) + 140(25.66)}{420 + 140} = 19.54\text{ cm}$$

$$420 + 140$$



$$\textcircled{1} 30\text{cm} \times 30\text{cm} = 900\text{cm}^2$$

$$y = 30/2 = 15$$

$$x = 30/2 = 15$$

$$30 \times 4.24 = 127.2$$

$$127.2$$

$$\textcircled{2} \frac{4.8 - 40}{3\pi} = 4.24$$

$$4.24 + 30 = 34.24$$

$$D/2 = 10 +$$

$$137.07$$

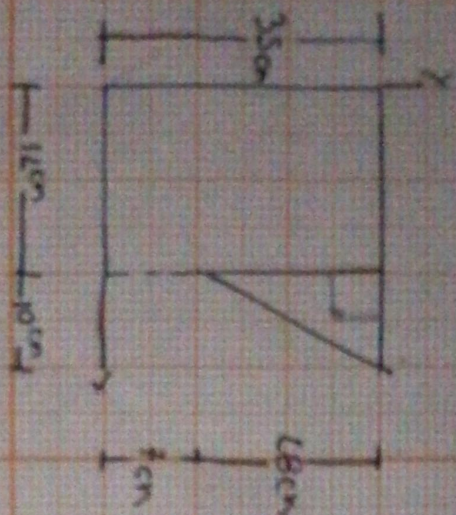
centroide c_{cx}

$$\frac{900(15) + 137.07(34.24) + 137(15)}{900\text{cm}^2 + 137.07 + 137.07} = 17.48\text{ cm}$$

$$900\text{cm}^2 + 137.07 + 137.07$$

$$\frac{900(15) + 137.07(34.24) + 137(25)}{900\text{cm}^2 + 137.07 + 137.07} = 22.5108\text{ cm}$$

$$900\text{cm}^2 + 137.07 + 137.07$$



Centroidal axis

① $12\text{cm} \times 35\text{cm} = 420\text{cm}^2$

② $28\text{cm} \times 10\text{cm} = 280\text{cm}^2$

$y_1 = 35/2 = 17.5\text{cm}$

$y_2 = 10/2 = 5\text{cm}$

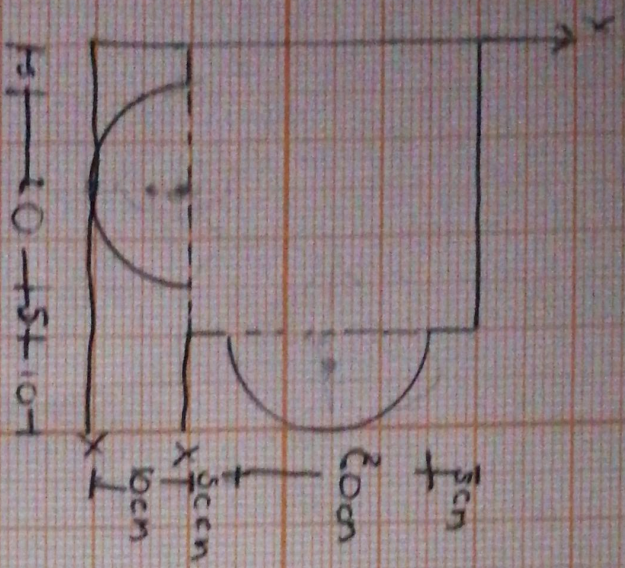
$x_1 = 12/2 = 6\text{cm}$

$x_2 = 10/2 = 5\text{cm}$

$420\text{cm}^2 \times 6 + 280\text{cm}^2 \times 5 = 8332.5\text{cm}^3$

$420 + 280$

$8332.5 / 700 = 11.903\text{cm}$



centroide de x

\bar{x}_{scn} ① $30\text{cm} \times 30\text{cm} = 900\text{cm}^2$

\bar{x}_{scn} $x = 30/2 = 15$

$x = 30/2 = 15$

$30x = 4,29 - 10$

$St. 76$

$157,07$

$900(15) + 157,07(31,24) + 157(15) = 17.418\text{ cm}^2$

$900\text{cm}^2 + 157,07 + 157,07$

$900(15) + 157,07(31,24) + 157(15) = 22.5108\text{ cm}^2$

$900\text{cm}^2 + 157,07 + 157,07$

$120 + 190$

② $\frac{98}{3\pi} = \frac{40}{3} = 13,33$

$D/2 = 10 +$