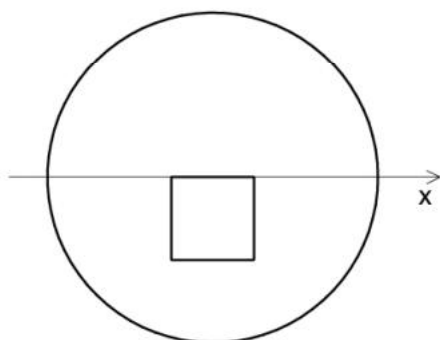
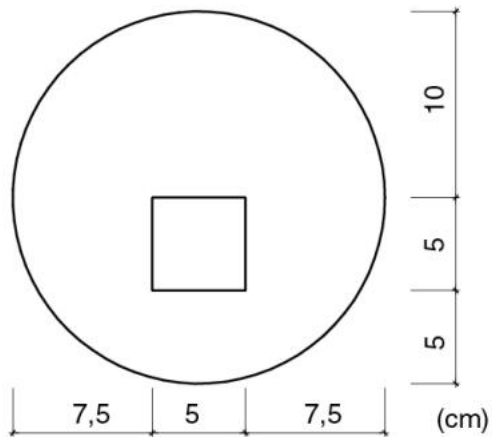


Figuras Planas

Determinar a posição do centro de gravidade e os valores dos momentos centrais de inércia das seções transversais abaixo:

3_

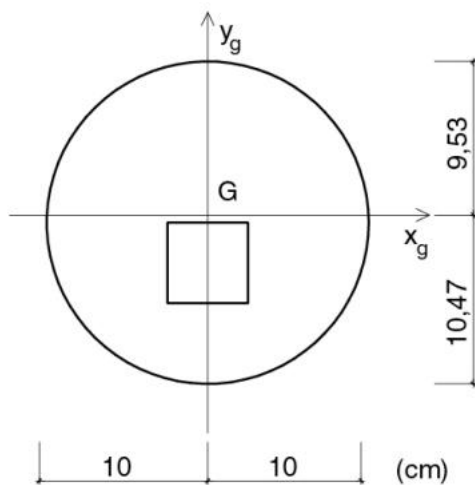


$$y_g = \frac{S_x}{A} = \frac{0 - (-2,5) \cdot 5 \cdot 5}{\frac{\pi \cdot 10^2}{4} - 5^2} = 0,47 \text{ cm}$$

$$I_x = \frac{\pi \cdot 10^4}{4} - \frac{5 \cdot 5^3}{4} = 7645,65 \text{ cm}^4$$

$$I_{x_g} = I_x - (y_g)^2 \cdot A = 7645,65 - (0,47)^2 \cdot 132,08 = 7616,47 \text{ cm}^4$$

$$I_{y_g} = \frac{\pi \cdot 10^4}{4} - \frac{5 \cdot 5^3}{12} = 7801,90 \text{ cm}^4$$



$$I_{x_g} = 7616,47 \text{ cm}^4$$

$$I_{y_g} = 7801,90 \text{ cm}^4$$