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DOCENTE: ARQ. PEDRO ALBERTO GARCIA LOPEZ

MATERIA: ESTATICA PARA LA ARQUITECTURA

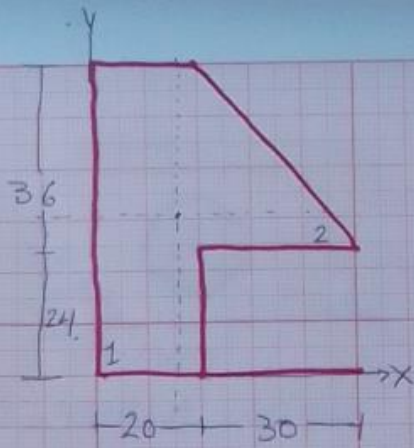
ACTIVIDAD: CALCULO

CUATRIMESTRE: 3° CUATRIMESTRE

GRUPO: A

LUGAR Y FECHA: 11/06/2022

Comitán de Domínguez Chiapas 2022



$$A_1 = 20 \text{ cm} (60 \text{ cm}) = 1200 \text{ cm}^2$$

$$x_1 = \frac{b}{2} \rightarrow \frac{20}{2} = 10 \text{ cm}$$

$$y = \frac{h}{2} \rightarrow \frac{60}{2} = 30 \text{ cm}$$

$$A_2 = \frac{30 \text{ cm} (36 \text{ cm})}{2} = 540 \text{ cm}^2$$

$$x_2 = \frac{b}{3} \rightarrow \frac{30}{3} = 10 + 20 \text{ cm}$$

$$= 30 \text{ cm}$$

$$y_2 = \frac{h}{3} \rightarrow \frac{36}{3} = 12 \text{ cm} + 24$$

$$= 36 \text{ cm}$$

$$X = \frac{\sum x \cdot A}{\sum A} \rightarrow C_{gx} = \frac{A_1 \cdot x_1 + A_2 \cdot x_2}{A_1 + A_2}$$

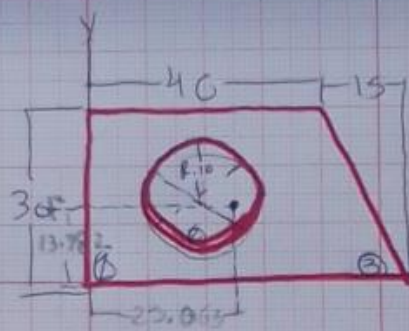
$$C_{gx} = \frac{1200 \text{ cm}^2 (10 \text{ cm}) + 540 \text{ cm}^2 (30 \text{ cm})}{1200 \text{ cm}^2 + 540 \text{ cm}^2}$$

$$= \frac{12,000 \text{ cm}^3 + 16,200 \text{ cm}^3}{1740 \text{ cm}^2} = \frac{28,200 \text{ cm}^3}{1740 \text{ cm}^2} = 16.20 \text{ cm}$$

$$Y = \frac{\sum y \cdot A}{\sum A} \rightarrow C_{gy} = \frac{A_1 \cdot y_1 + A_2 \cdot y_2}{A_1 + A_2}$$

$$C_{gy} = \frac{1200 \text{ cm}^2 (30 \text{ cm}) + 540 \text{ cm}^2 (36 \text{ cm})}{1200 \text{ cm}^2 + 540 \text{ cm}^2} = \frac{36,000 + 19,440}{1740 \text{ cm}^2}$$

$$= \frac{55,440 \text{ cm}^3}{1740 \text{ cm}^2} = 31.86 \text{ cm}$$



$$A_1 = b \times h = 40(30 \text{ cm}) = 1200 \text{ cm}^2$$

$$X_1 = \frac{b}{2} \rightarrow \frac{40}{2} = 20 \text{ cm}$$

$$Y_1 = \frac{h}{2} = \frac{30}{2} = 15 \text{ cm}$$

$$A_2 = \frac{b \times h}{2} = \frac{15 \text{ cm}(30 \text{ cm})}{2} = 225 \text{ cm}^2$$

$$= 225 \text{ cm}^2$$

$$X_3 = \frac{b}{3} = \frac{15}{3} = 5 \text{ cm} + 40 = 45 \text{ cm}$$

$$Y_3 = \frac{h}{3} = \frac{30}{3} = 10 \text{ cm}$$

$$A_2 = \pi \cdot R^2 = 3.1416(10)^2 = 3.1416(100)$$

$$= 314.16 \text{ cm}^2$$

$$X_2 = 10 + 10 = 20 \text{ cm}$$

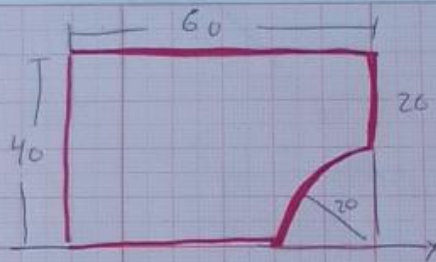
$$Y_2 = 10 + 5 = 15 \text{ cm}$$

$$C_{gx} = \frac{1200 \text{ cm}^2(20 \text{ cm}) - 314.16 \text{ cm}^2(20 \text{ cm}) + 225 \text{ cm}^2(45 \text{ cm})}{1200 \text{ cm}^2 - 314.16 \text{ cm}^2 + 225 \text{ cm}^2}$$

$$= 25.063 \text{ cm}$$

$$C_{gy} = \frac{1200 \text{ cm}^2(15 \text{ cm}) - 314.16 \text{ cm}^2(15 \text{ cm}) + 225 \text{ cm}^2(10 \text{ cm})}{1200 \text{ cm}^2 - 314.16 \text{ cm}^2 + 225 \text{ cm}^2}$$

$$= 13.987 \text{ cm}$$



$$A_1 = b \times h = 60 \text{ cm} (40 \text{ cm}) = 2400 \text{ cm}^2$$

$$X_1 = \frac{b}{2} = \frac{60 \text{ cm}}{2} = 30 \text{ cm}$$

$$Y_1 = \frac{h}{2} = \frac{40}{2} = 20 \text{ cm}$$

$$A_2 = \frac{3.1416 (20 \text{ cm})^2}{4} = \frac{3.1416 (400)}{4} = 1.25.640 \text{ cm}^2$$

$$= 314.16 \text{ cm}^2$$

$$X_2 = \frac{4 (20 \text{ cm})}{3 (3.1416)} = \frac{80 \text{ cm}}{9.424} = 8.488 \text{ cm} \quad 60 - 8.488 \text{ cm} = 51.512 \text{ cm}$$

$$Y_2 = \frac{4 (20 \text{ cm})}{3 (3.1416)} = \frac{80 \text{ cm}}{9.424} = 8.488 \text{ cm} \quad 60 - 8.488 \text{ cm} = 51.512 \text{ cm}$$

$$C_{gx} = \frac{2400 (30 \text{ cm}) - 314.16 (51.512)}{2400 - 314.16}$$

$$= 26.759 \text{ cm} \quad C_{gy} = 15.253 \text{ cm}$$