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Nombre del profesor: Pedro Alberto Garcia

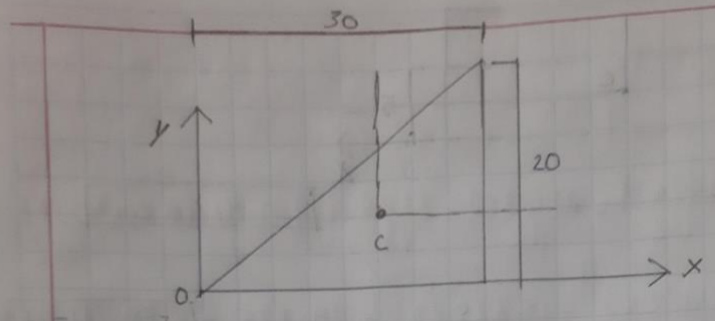
Nombre del trabajo: Momentos de inercia

Materia: Estática Para La Arquitectura

Grado: 2do

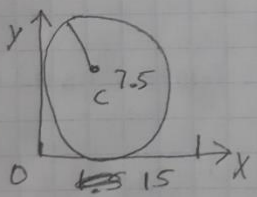
Grupo: "A"

Comitán de Domínguez Chiapas a 21 de julio del 2021



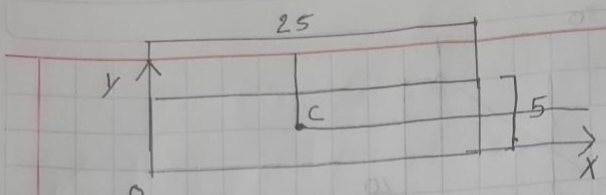
$$\bar{I}x = \frac{bb^3}{36} = \frac{30(20)^3}{36} = \frac{30(8,000)}{36} = \frac{240,000}{36} = 6,666.6666 \text{ cm}^2$$

$$\bar{I}y = \frac{b^3h}{36} = \frac{(30)^3(20)}{36} = \frac{27,000(20)}{36} = \frac{540,000}{36} = 15,000 \text{ cm}^3$$



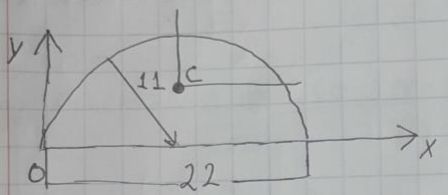
$$Ix = Ix = \frac{\pi R^4}{4} = \frac{3.1416(7.5)^4}{4} = \frac{3.1416(3,164.0625)}{4}$$

$$\frac{9,940.21875}{4} = 2,485.0546 \text{ cm}^4$$

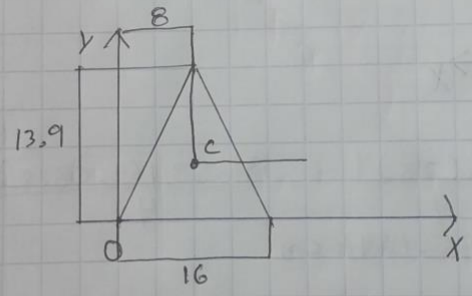


$\bar{I}x = \frac{bh^3}{12} = \frac{25(5)^3}{12} = \frac{25(125)}{12} = \frac{3125}{12} = 260.4166\ cm^3$

$\bar{I}y = \frac{b^3h}{12} = \frac{(5)^3(5)}{12} = \frac{15,625(5)}{12} = \frac{78,125}{12} = 6,510.4166\ cm^3$



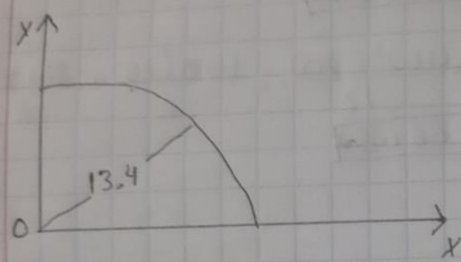
$\bar{I}x = 0.1098R^4 = 0.1098(11)^4 = 0.1098(14,641) = 1,607.5818\ cm^4$



$Ix = \frac{bh^3}{36} = \frac{16(13.9)^3}{36} = \frac{16(2685.619)}{36} = \frac{42,969.904}{36}$

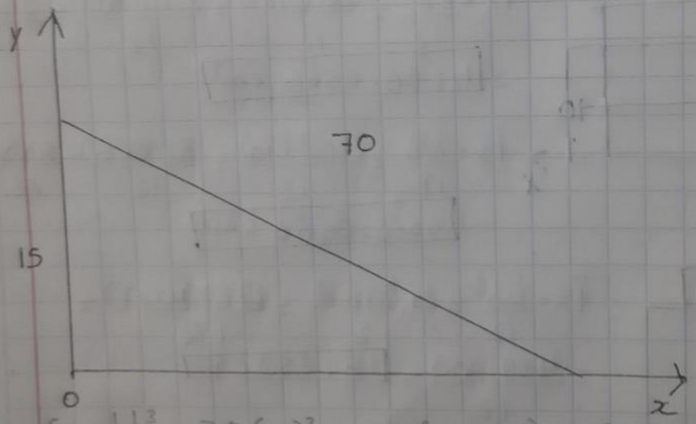
$1,193.6084\ cm^3$

$\bar{I}y = \frac{b^3h}{48} \quad \frac{(16)^3(13.9)}{48} = \frac{4096(13.9)}{48} = \frac{56934.4}{48} = 118.6125\ cm^3$



$I_x = I_y = 0.05488R^4 = 0.05488(13.4)^4 = 0.05488(32,241.7936)$

$= \boxed{1,769.4296\ cm^4}$

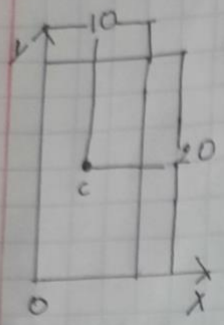


$r_x = \frac{bh^3}{36} = \frac{70(15)^3}{36} = \frac{70(3,375)}{36} = \frac{236,250}{36} = \boxed{6,562.5\ cm^3}$

$I_y = \frac{b^3h}{36} = \frac{(70)^3(15)}{36} = \frac{343,000(15)}{36} = \frac{5,145,000}{36} = \boxed{142,916.6667\ cm^3}$

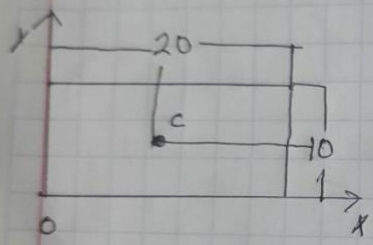
$\bar{I}_x = \frac{bh^3}{12} = \frac{10(20)^3}{12} = \frac{10(8,000)}{12} = \frac{80,000}{12}$

$= \boxed{6,666.6666\ cm^3}$



$\bar{I}_y = \frac{b^3h}{12} = \frac{(10)^3(20)}{12} = \frac{1000(20)}{12} = \frac{20,000}{12}$

$= \boxed{1,666.6666\ cm^3}$

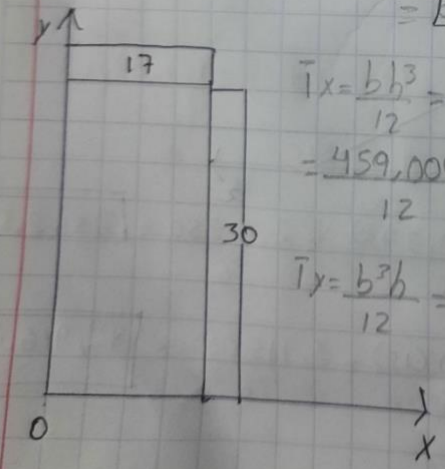


$\bar{I}_x = \frac{bh^3}{12} = \frac{20(10)^3}{12} = \frac{20(1000)}{12} = \frac{20,000}{12}$

$= \boxed{1,666.6666\ cm^3}$

$\bar{I}_y = \frac{b^3h}{12} = \frac{(20)^3(10)}{12} = \frac{8,000(10)}{12} = \frac{80,000}{12}$

$= \boxed{6,666.6666\ cm^3}$



$\bar{I}_x = \frac{bh^3}{12} = \frac{17(30)^3}{12} = \frac{17(27000)}{12} =$

$= \frac{459,000}{12} = \boxed{38,250\ cm^3}$

$\bar{I}_y = \frac{b^3h}{12} = \frac{(17)^3(30)}{12} = \frac{4913(30)}{12}$

$= \frac{147,390}{12} = \boxed{12,282.5\ cm^3}$