

POLITÉCNICA

UNIVERSIDAD POLITÉCNICA DE MADRID

E.T.S. de Ingenieros Agrónomos

Dpto. Física y Mecánica

Centroides de figuras
homogéneas



Curvas planas



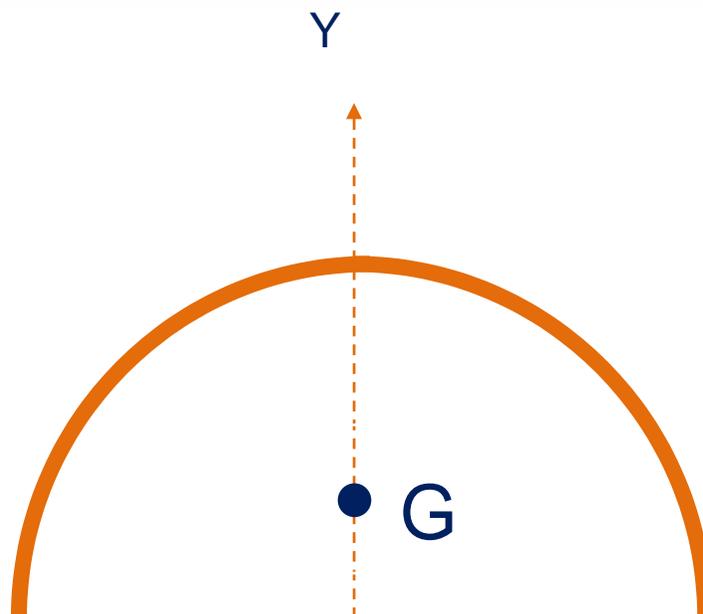
Varilla de longitud L



$$x_G = \frac{L}{2}$$



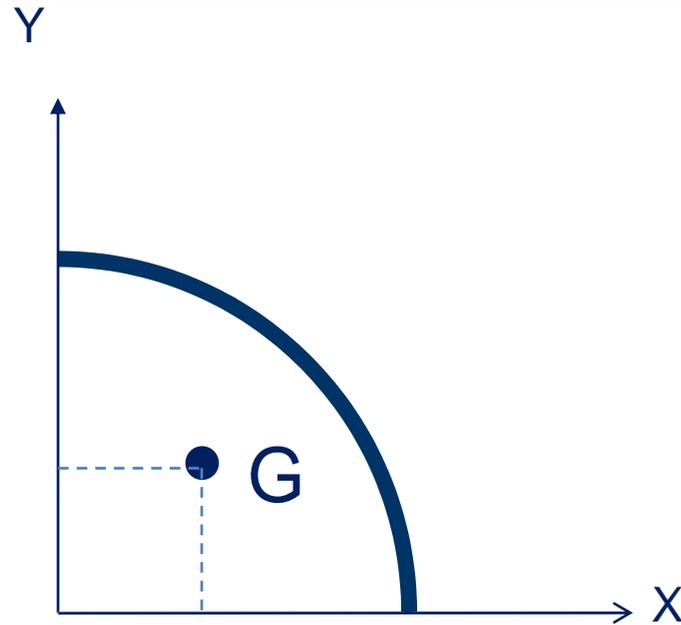
Semicircunferencia de radio R



$$y_G = \frac{2R}{\pi}$$



Cuarto de circunferencia de radio R



$$x_G = \frac{2R}{\pi}$$

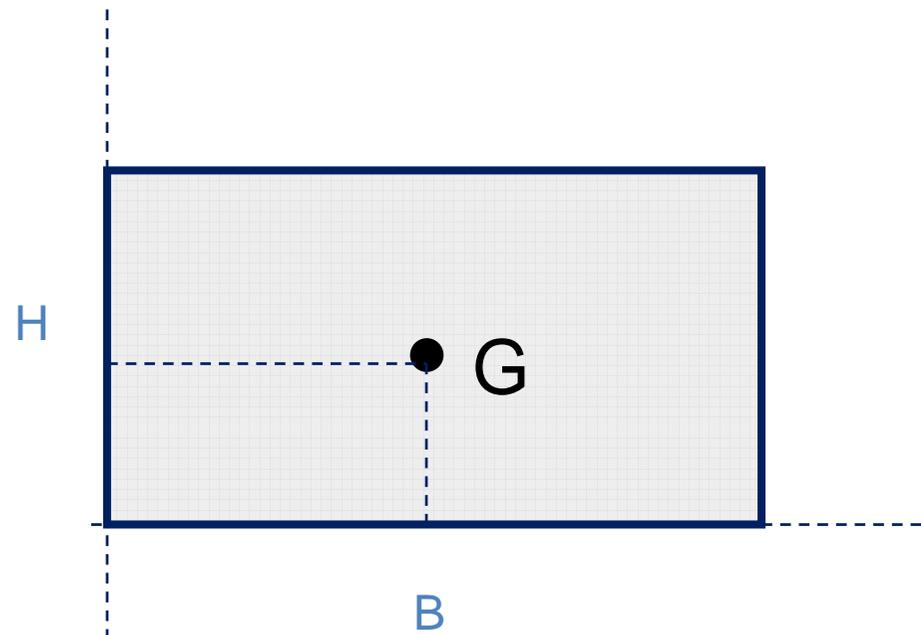
$$y_G = \frac{2R}{\pi}$$



Superficies planas



Rectángulo de base B, altura H

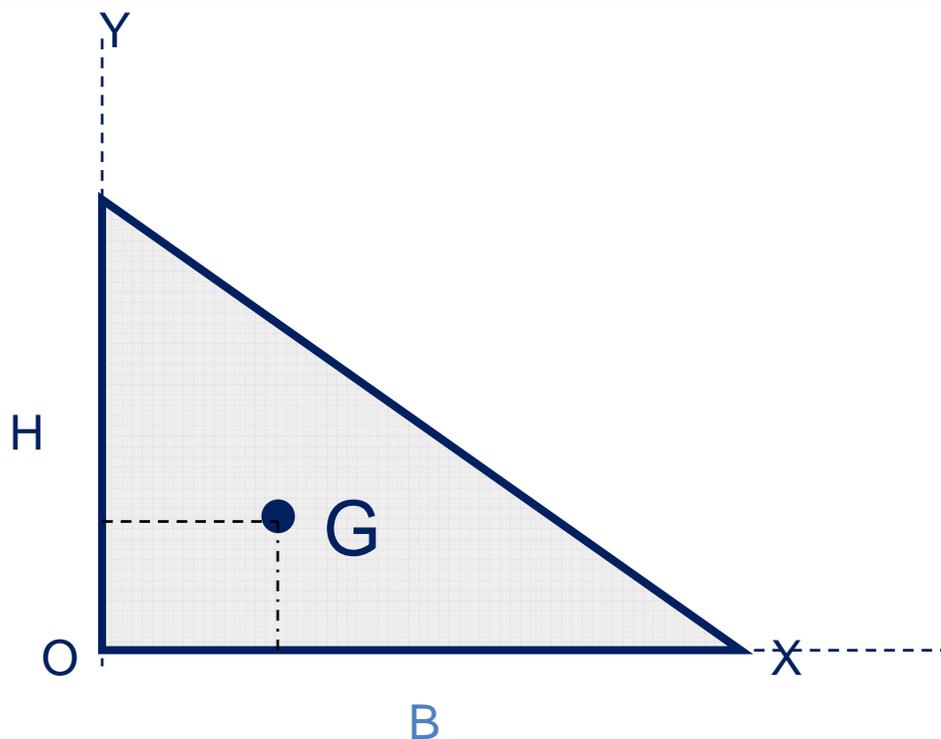


$$x_G = \frac{B}{2}$$

$$y_G = \frac{H}{2}$$



Triángulo rectángulo de base B, altura H



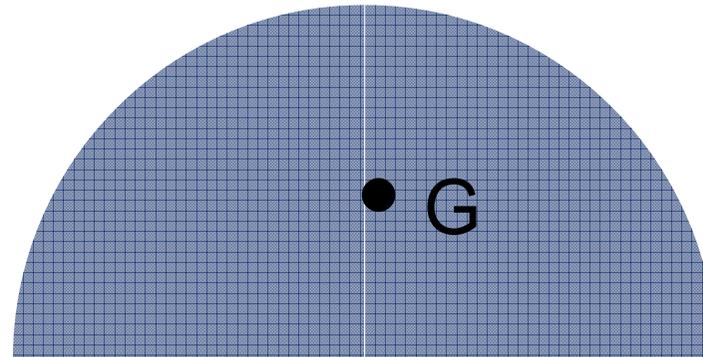
$$x_G = \frac{B}{3}$$

$$y_G = \frac{H}{3}$$



Semicírculo de radio R

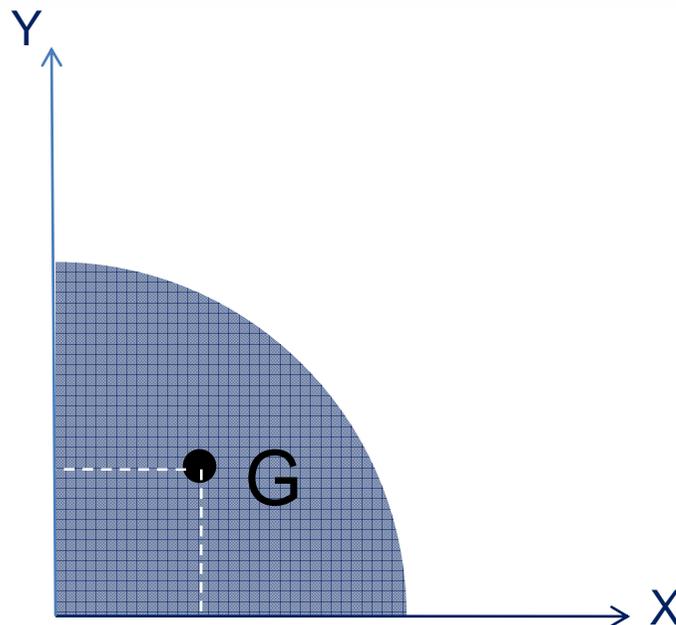
Y



$$y_G = \frac{4R}{3\pi}$$



Cuarto de círculo de radio R



$$x_G = \frac{4R}{3\pi}$$

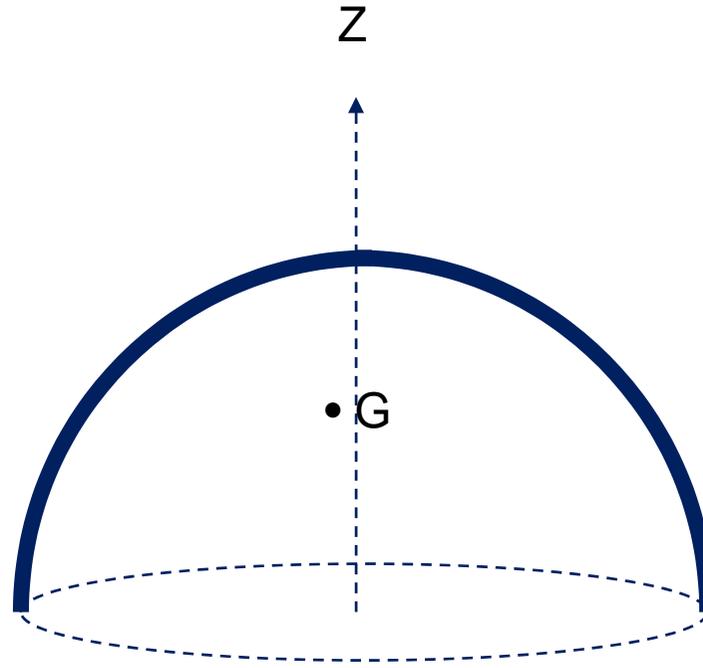
$$y_G = \frac{4R}{3\pi}$$



Superficies no planas y volúmenes



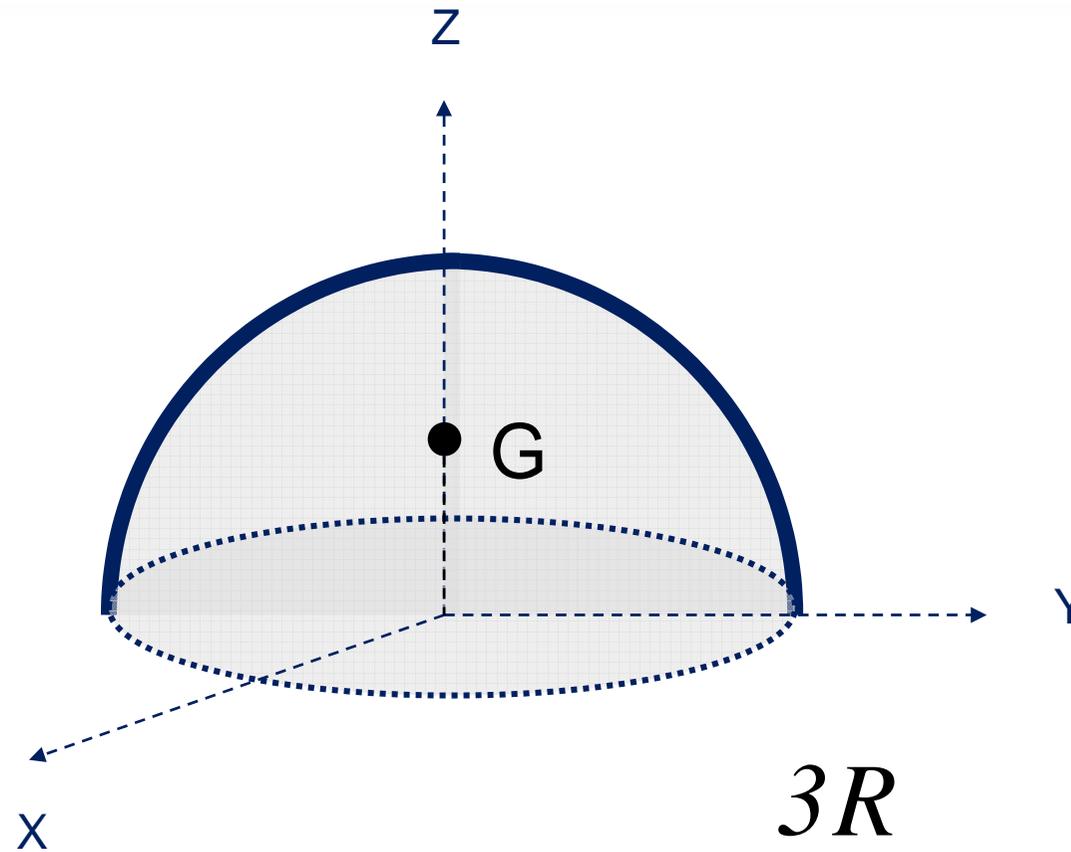
Semisuperficie esférica de radio R



$$z_G = \frac{R}{2}$$



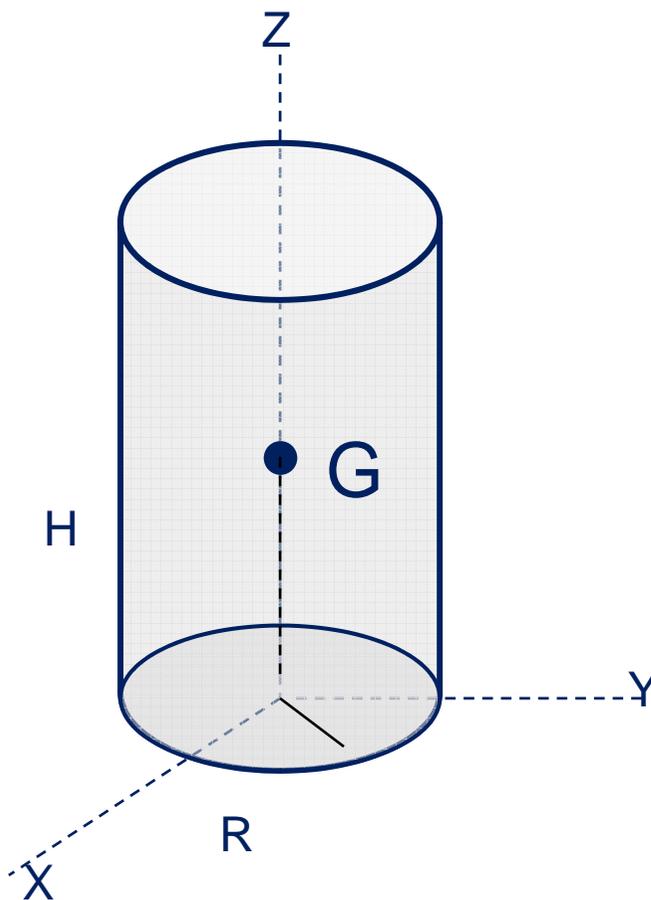
Semiesfera de radio R



$$z_G = \frac{3R}{8}$$



Cilindro de radio R y altura H

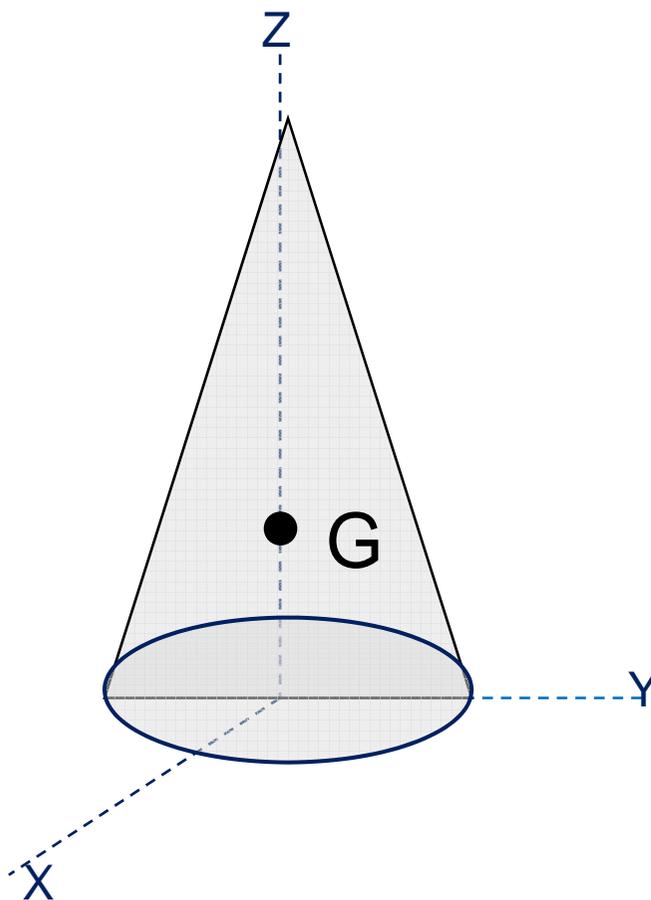


$$z_G = \frac{H}{2}$$



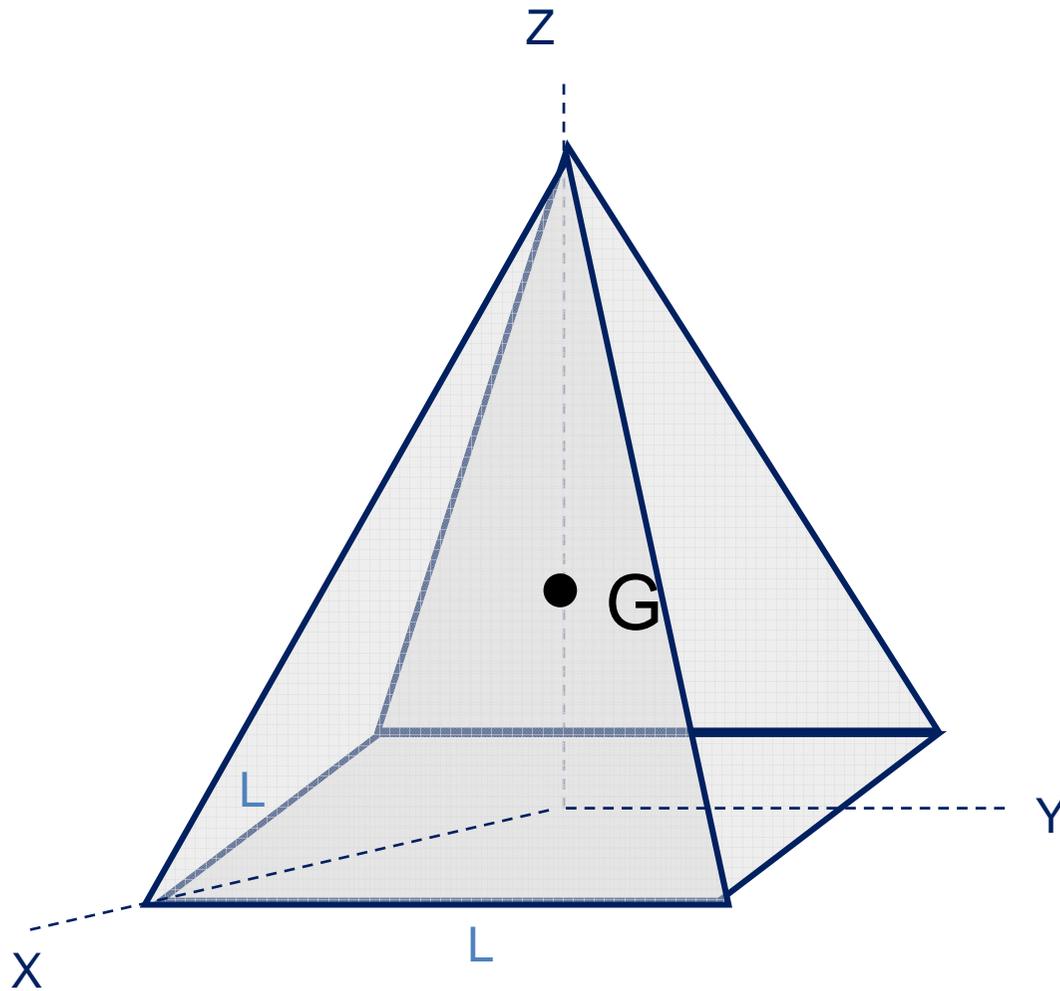
Cono de radio R y altura H

$$z_G = \frac{H}{4}$$





Pirámide de base cuadrada de lado L y altura H



$$z_G = \frac{H}{4}$$