

FORMULARIO CUERPOS ESFÉRICOS

ESFERA:

$$A = 4 \cdot \pi \cdot R^2$$

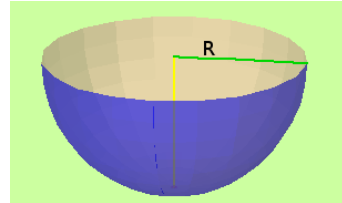
$$V = \frac{4}{3} \cdot \pi \cdot R^3$$

SEMIESFERA:

$$A = 2 \cdot \pi \cdot R^2 \quad (\text{superficie semiesférica})$$

$$A = 3 \cdot \pi \cdot R^2 \quad (\text{semiesfera cerrada})$$

$$V = \frac{2}{3} \cdot \pi \cdot R^3$$

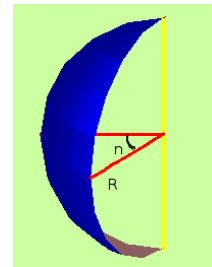


HUSO ESFÉRICO Y CUÑA ESFÉRICA:

$$A = 4 \cdot \pi \cdot R^2 \cdot n/360 \quad (\text{huso esférico})$$

$$A = 4 \cdot \pi \cdot R^2 \cdot n/360 + \pi \cdot R^2 = (n/90 + 1) \cdot \pi \cdot R^2 \quad (\text{cuña esférica})$$

$$V = 4 \cdot \pi \cdot R^3 \cdot n/(3 \cdot 360) = \pi \cdot R^3 \cdot n/270$$

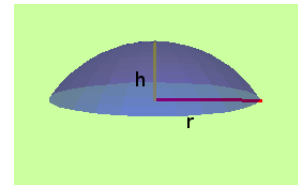


CASQUETE ESFÉRICO y SEGMENTO ESFÉRICO DE UNA BASE:

$$A = 2 \cdot \pi \cdot R \cdot h \quad (\text{casquete esférico})$$

$$A = 2 \cdot \pi \cdot R \cdot h + \pi \cdot r^2 \quad (\text{segmento esférico de una cara})$$

$$V = \pi \cdot h^2 \cdot (3 \cdot R - h)/3$$

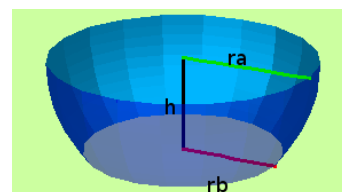


ZONA ESFÉRICA Y SEGMENTO ESFÉRICO DE DOS BASES:

$$A = 2 \cdot \pi \cdot R \cdot h \quad (\text{zona esférica})$$

$$A = 2 \cdot \pi \cdot R \cdot h + \pi \cdot r_a^2 + \pi \cdot r_b^2 \quad (\text{segmento esférico de dos caras})$$

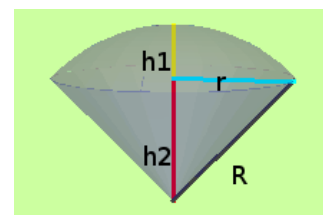
$$V = \pi \cdot h \cdot (h^2 + 3 \cdot r_a^2 + 3 \cdot r_b^2)/6$$



SECTOR ESFÉRICO:

$$A = A_{\text{casquete}} + A_{\text{lateral cono}} = 2 \cdot \pi \cdot R \cdot h + \pi \cdot r \cdot g =$$

$$= \pi \cdot R \cdot (2h + r)$$



$$V = V_{\text{casquete}} + V_{\text{cono}} = \frac{1}{3} \cdot \pi \cdot h_1^2 \cdot (3R - h_1) + \frac{1}{3} \cdot \pi \cdot r^2 \cdot h_2$$