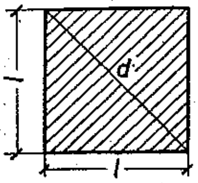
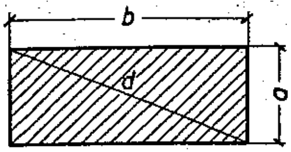
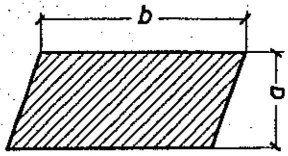
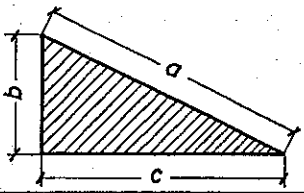
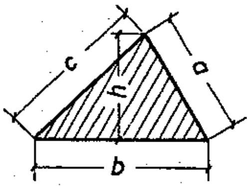
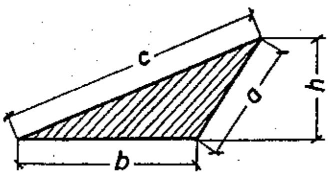
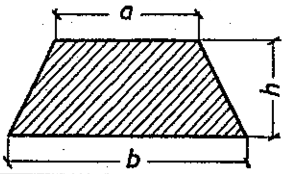
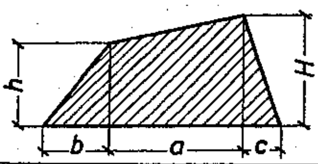
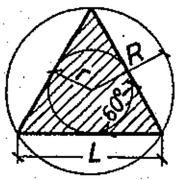
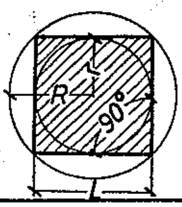
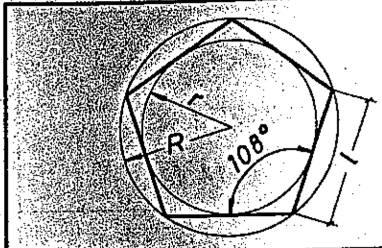
	CUADRADO Area = A $A = 1/2\ d^2 = l^2$ $l = \sqrt{A} = 0{,}7071\ d$ $d = 1{,}414 \cdot l = 1{,}414 \sqrt{A}$
	RECTANGULO Area = A = a·b $A = a\sqrt{d^2 - a^2} = b\sqrt{d^2 - b^2}$ $d = \sqrt{a^2 + b^2}$ $a = \sqrt{d^2 - b^2} = A/b$ $b = \sqrt{d^2 - a^2} = A/a$
	PARALELOGRAMO Area = A $A = a \cdot b$ $a = A/b \quad ; \quad b = A/a$
	TRIANGULO RECTANGULO Area = A = b·c/2 $a = \sqrt{b^2 + c^2}$ $b = \sqrt{a^2 - c^2}$ $c = \sqrt{a^2 - b^2}$
	TRIANGULO ACUTANGULO Area = A = b·h/2 $A = \frac{b}{2}\sqrt{a^2 - \left(\frac{a^2 + b^2 - c^2}{2b}\right)^2}$ Semiperimetro $S = (a+b+c)/2$ $A = \sqrt{S(S-a)(S-b)(S-c)}$
	TRIANGULO OBTUSANGULO Area = $A = \frac{b \cdot h}{2}$ $A = \frac{b}{2}\sqrt{a^2 - \left(\frac{c^2 - a^2 - b^2}{2b}\right)^2}$ $S = \frac{1}{2}(a+b+c)$ $A = \sqrt{S(S-a)(S-b)(S-c)}$
	TRAPECIO Area = A $A = \frac{a+b}{2} h$
	TRAPEZOIDE Area = A $A = \frac{(H+h)a + bh + cH}{2}$
	TRIANGULO EQUILATERO INSCRITO $r = 0{,}289\ L \quad ; \quad R = 0{,}577\ L$ $L = 1{,}732\ R = 3{,}464\ r$ $A = 5{,}192\ r^2 = 1{,}299\ R^2 = 0{,}433\ L^2$
	CUADRADO INSCRITO $r = 0{,}5\ L \quad ; \quad R = 0{,}707\ L$ $L = 1{,}414\ R = 2r$ $A = L^2 = 2R^2 = 4r^2$



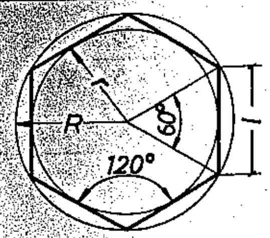
PENTAGONO

$R = 0{,}851 \cdot l \quad ; \quad r = 0{,}688 \cdot l$

$l = 1{,}176 \cdot R = 1{,}453 \cdot r$

$A = 1{,}720 \cdot l^2$

$A = 2{,}378 \cdot R^2 = 3{,}633 \cdot r^2$



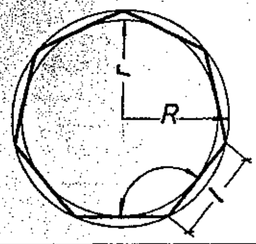
HEXAGONO

$A = 2{,}598 \cdot l^2 = 2{,}598 \cdot R^2$

$A = 3{,}464 \cdot r^2$

$R = l = 1{,}155 \cdot r$

$r = 0{,}866 \cdot l = 0{,}866 \cdot R$



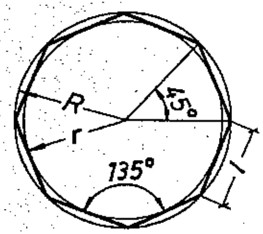
HEPTAGONO

$R = 1{,}152 \cdot l$

$r = 1{,}038 \cdot l$

$l = 0{,}868 \cdot R = 0{,}963 \cdot r$

$A = 3{,}634 \cdot l^2 = 2{,}736 \cdot R^2 = 3{,}371 \cdot r^2$



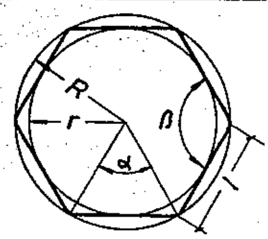
OCTOGONO

$A = 4{,}828 \cdot l^2 = 2{,}828 \cdot R^2 = 3{,}314 \cdot r^2$

$R = 1{,}307 \cdot l = 1{,}082 \cdot r$

$r = 1{,}207 \cdot l = 0{,}924 \cdot R$

$l = 0{,}765 \cdot R = 0{,}828 \cdot r$



POLIGONO REGULAR

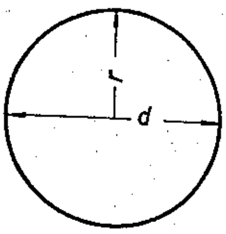
n = número de lados

$\alpha = \frac{360}{n} \quad ; \quad \beta = 180 - \alpha$

$A = \frac{n \cdot l \cdot r}{2} = \frac{n \cdot l}{2} \sqrt{R^2 - \frac{l^2}{4}}$

$R = \sqrt{r^2 + \frac{l^2}{4}}$

$r = \sqrt{R^2 - \frac{l^2}{4}} \quad ; \quad l = 2\sqrt{R^2 - r^2}$



CIRCULO

Area = A

Circunferencia = C

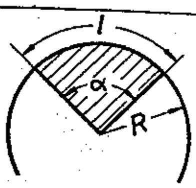
$A = \pi r^2 = 3{,}1416\, r^2 = 0{,}7854\, d^2$

$C = 2\pi r = 6{,}2832\, r = 3{,}1416\, d$

$r = \frac{C}{6{,}2832} = \sqrt{\frac{A}{3{,}1416}} = 0{,}564\sqrt{A}$

$d = \frac{C}{3{,}1416} = \sqrt{\frac{A}{0{,}7854}} = 1{,}128\sqrt{A}$

long. arco de $1^\circ = 0{,}008727 \cdot d$



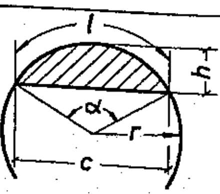
SECTOR CIRCULAR

Area = A

$l = \frac{r \cdot \alpha \cdot 3{,}1416}{180} = 0{,}01745 \cdot r \cdot \alpha = \frac{2A}{r}$

$A = \frac{1}{2} r l = 0{,}008727\, \alpha\, r^2$

$\alpha = \frac{57{,}296 \cdot l}{r} \quad ; \quad r = \frac{2A}{l} = \frac{57{,}296 \cdot l}{\alpha}$



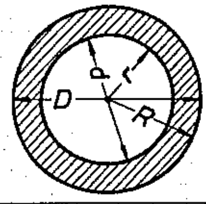
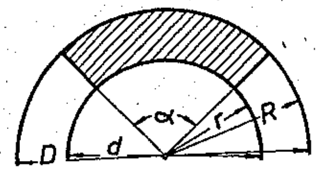
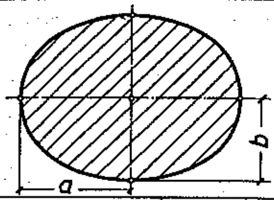
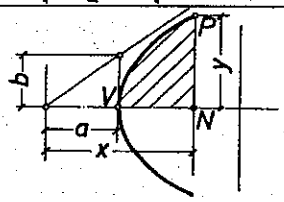
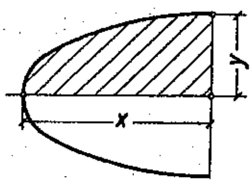
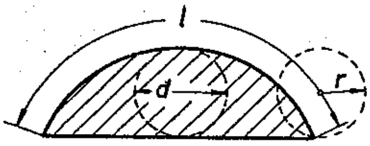
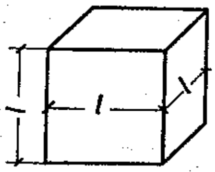
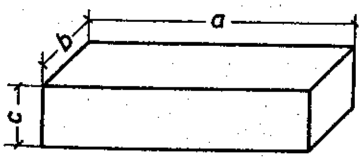
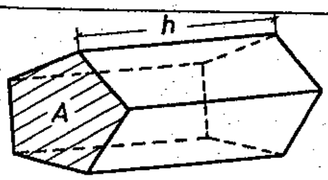
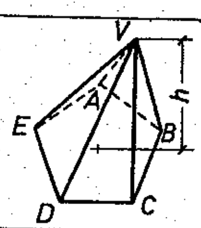
SEGMENTO CIRCULAR

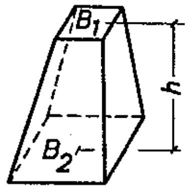
Area = A

$c = 2\sqrt{h(2r-h)} \quad ; \quad A = \frac{rl - c(r-h)}{2}$

$r = \frac{c^2 + 4h^2}{8h} \quad ; \quad l = 0{,}01745\, r\alpha$

$h = r - \frac{\sqrt{4r^2 - c^2}}{2} \quad ; \quad \alpha = \frac{57{,}296 \cdot l}{r}$

	CORONA CIRCULAR Area = A	$A = \pi(R^2 - r^2) = 3{,}1416\,(R^2 - r^2)$ $A = 0{,}7854\,(D^2 - d^2)$
	SECTOR DE CORONA CIRCULAR (TRAPECIO CIRCULAR)	Angulo del sector = α $A = \frac{\alpha\pi}{360}(R^2 - r^2) = 0{,}00873\,\alpha(R^2 - r^2) =$ $= \frac{\alpha\pi}{4 \times 360}(D^2 - d^2) = 0{,}00218\,\alpha(D^2 - d^2)$
	ELIPSE Area = A ; Perímetro = P $A = \pi a b$	Valor aproximado del perímetro $p = \pi\sqrt{2(a^2 + b^2)}$ $p = \pi\sqrt{2(a^2 + b^2) - \frac{(a-b)^2}{2{,}2}}$
	HIPERBOLA	A = Area VNP $A = \frac{x \cdot y}{2} - \frac{a \cdot b}{2}\ \text{Hip log}\left(\frac{x}{a} + \frac{y}{b}\right)$
	PARABOLA	Area = $A = 2/3 \cdot xy$ El área de la parábola es igual a dos tercios el área del rectángulo de lados x e y.
	CICLOIDE	Area = $A = 3\pi r^2 = 2{,}3562\, d^2 =$ $= 3 \cdot$ área del círculo generatriz Longitud de la cicloide = $8r = 4d$
	HEXAEDRO O CUBO	Volumen = $V = l^3$ $l = \sqrt[3]{V}$
	PARALELEPIPEDO	Volumen = $V = a \cdot b \cdot c$ $a = \frac{V}{b \cdot c}$; $b = \frac{V}{a \cdot c}$; $c = \frac{V}{a \cdot b}$
	PRISMA	Volumen = V Area de la base = A $V = A \cdot h$
	PIRAMIDE Volumen = V Area de la base = A $V = \frac{1}{3} A \cdot h$	Cuando la base es regular, de n lados, l = lado; r y R, radios de los círculos inscrito y circunscrito : $V = \frac{n l r h}{6} = \frac{n l h}{6}\sqrt{R^2 - \frac{l^2}{4}}$



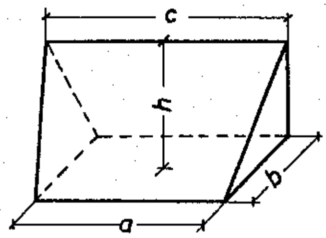
TRONCO DE PIRAMIDE

B_1 = Area de la base menor

B_2 = Area de la base mayor

V = Volumen

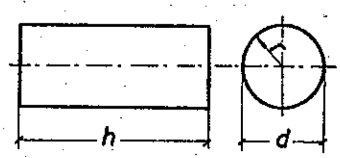
$$V = \frac{h}{3}(B_1 + B_2 + \sqrt{B_1 \times B_2}$$



CUÑA

V = Volumen

$$V = \frac{(2a + c)\,b \cdot h}{6}$$



CILINDRO

V = Volumen

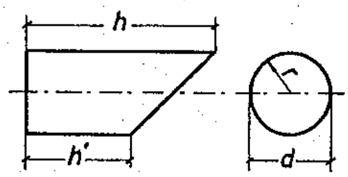
S = Area lateral

A = Area total

$$V = 3{,}1416\, r^2 h = 0{,}7854\, d^2 h$$

$$S = 6{,}2832\, rh = 3{,}1416\, dh$$

$$A = 6{,}2832\,(r + h)\,r = 3\,1416\left(\frac{d}{2} + h\right) d$$



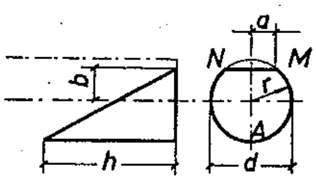
CILINDRO TRUNCADO

V = Volumen

S = Area lateral

$$V = 1{,}5708\, r^2 (h + h') = 0{,}3927\, d^2 (h + h')$$

$$S = 3{,}1416\, r\,(h + h') = 1{,}5708\, d\,(h + h')$$



PORCION DE CILINDRO

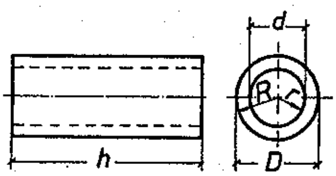
V = Volumen

S = Area lateral

$$V = \left(\frac{2}{3} a^3 \pm b \cdot \text{Area } MAN\right) \frac{h}{r \pm b}$$

$$S = (a \cdot d \pm b \cdot \text{longitud arco } MAN) \frac{h}{r \pm b}$$

+ ó −, según que el área de la base sea mayor o menor que la mitad del circulo.

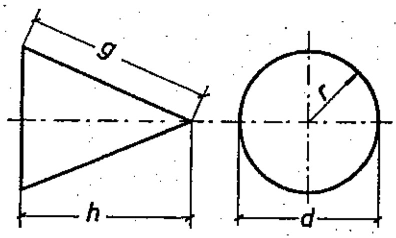


CILINDRO HUECO

V = Volumen

$$V = 3{,}1416\, h\,(R^2 - r^2)$$

$$V = 0{,}7854\, h\,(D^2 - d^2)$$



CONO

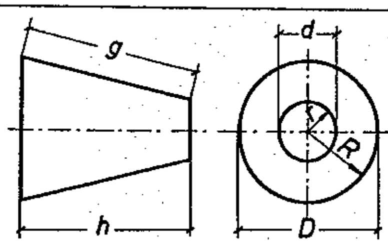
V = Volumen

A = Area lateral

$$V = \frac{3{,}1416\, r^2 h}{3} = 1{,}0472\, r^2 h = 0{,}2618\, d^2 h$$

$$A = 3{,}1416\, r \sqrt{r^2 + h^2} = 3{,}1416\, r \cdot g = 1{,}5708\, d \cdot g$$

$$g = \sqrt{r^2 + h^2} = \sqrt{\frac{d^2}{4} + h^2}$$



TRONCO DE CONO

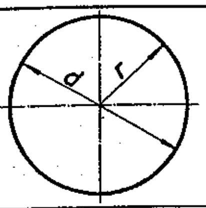
V = Volumen

A = Area lateral

$$V = 1{,}0472\, h\,(R^2 + Rr + r^2) = 0{,}2618\, h\,(D^2 + Dd + d^2)$$

$$A = 3{,}1416 \cdot g\,(R + r) = 1{,}5708\,(D + d) \cdot g$$

$$e = R - r \;;\; g = \sqrt{e^2 + h^2} = \sqrt{(R - r)^2 + h^2}$$



ESFERA

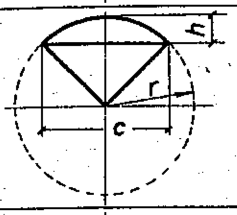
A=Area

V=Volumen

$$V=\frac{4\pi r^3}{3}=\frac{\pi d^3}{6}=4{,}1888\,r^3=0{,}5236\,d^3$$

$$A=4\pi r^2=\pi d^2=12{,}5664\,r^2=3\,1416\,d^2$$

$$r=\sqrt[3]{\frac{3V}{4\pi}}=0{,}6204\sqrt[3]{V}$$



SECTOR ESFERICO

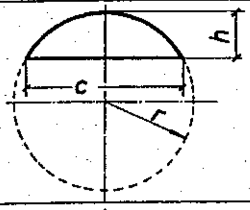
V=Volumen

A=Area total superficie esférica y cónica.

$$V=\frac{2\pi r^2 h}{3}=2{,}0944\,r^2 h$$

$$A=3{,}1416\,r\,(2h+\frac{c}{2})$$

$$c=2\sqrt{h(2r-h)}$$



SEGMENTO ESFERICO

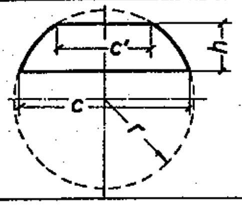
V=Volumen

A=Area superficie esférica

$$V=3{,}1416\,h^2(r-\frac{h}{3})=3{,}1416\,h\,(\frac{c^2}{8}+\frac{h^2}{6})$$

$$A=2\pi rh=6{,}2832\,rh=3{,}1416\,(\frac{c^2}{4}+h^2)$$

$$C=2\sqrt{h(2r-h)}\qquad r=\frac{c^2+4h^2}{8h}$$



ZONA ESFERICA

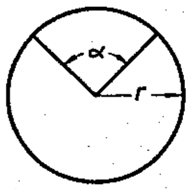
V=Volumen

A=Area de la superficie esférica

$$V=0{,}5236\,h\,(\frac{3c'^2}{4}+\frac{3c^2}{4}+h^2)$$

$$A=2\pi rh=6{,}2832\,rh$$

$$r=\sqrt{\frac{c^2}{4}+(\frac{c^2-c'^2-4h^2}{8h})^2}$$



CUÑA ESFERICA

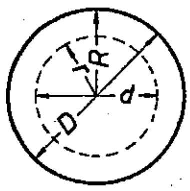
V=Volumen

A=Area superficie esférica

α = Angulo central en grados

$$V=\frac{\alpha}{360}\times\frac{4\pi r^3}{3}=0{,}0116\,\alpha\,r^3$$

$$A=\frac{\alpha}{360}\times 4\pi r^2=0{,}0349\,\alpha\,r^2$$

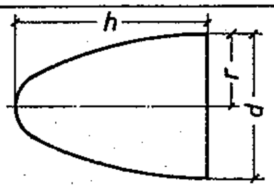


ESFERA HUECA

V=Volumen

$$V=\frac{4\pi}{3}(R^3-r^3)=4{,}1888\,(R^3-r^3)=$$

$$V=\frac{\pi}{6}(D^3-d^3)=0{,}5236\,(D^3-d^3)$$



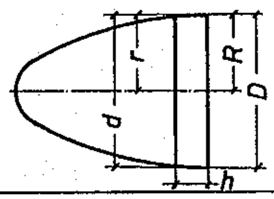
PARABOLOIDE

V=Volumen

A=Area

$$V=\frac{1}{2}\pi r^2 h=0{,}3927\,d^2 h\quad;\quad p=\frac{d^2}{8h}$$

$$A=\frac{2\pi}{3p}\left[\sqrt{(\frac{d^2}{4}+p^2)^3}-p^3\right]$$

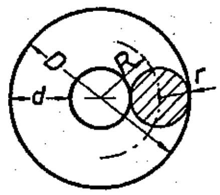


SEGMENTO PARABOLOIDE

V=Volumen

$$V=\frac{\pi}{2}h\,(R^2+r^2)=1{,}5708\,h\,(R^2+r^2)=$$

$$=\frac{\pi}{8}h\,(D^2+d^2)=0{,}3927\,h\,(D^2+d^2)$$



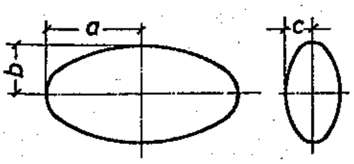
TORO

V=Volumen

A=Area

$$V=2\pi^2 R r^2=19{,}739\,Rr^2=\frac{\pi^2}{4}Dd^2=2{,}4674\,Dd^2$$

$$A=4\pi^2 Rr=39{,}478\,Rr=\pi^2 Dd=9{,}8696\,Dd$$



ELIPSOIDE

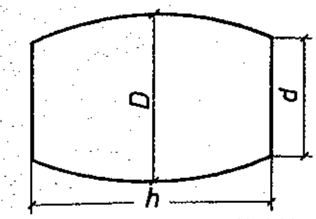
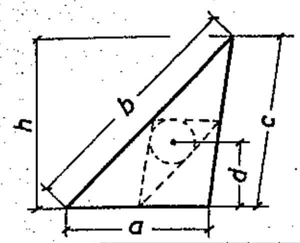
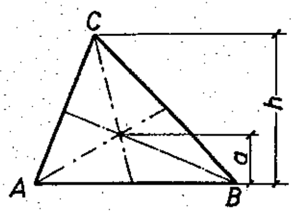
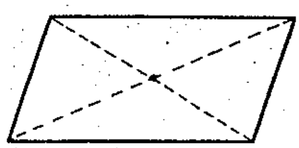
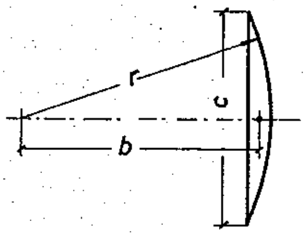
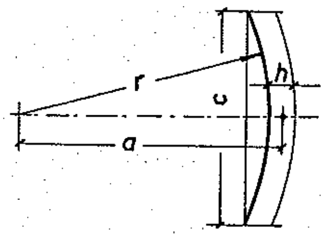
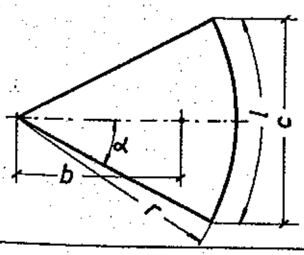
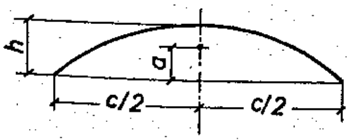
V=Volumen

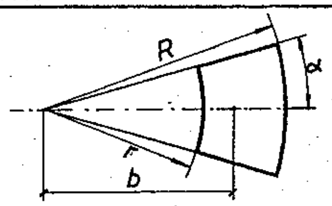
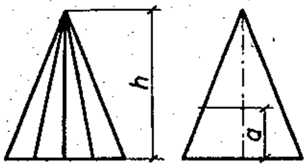
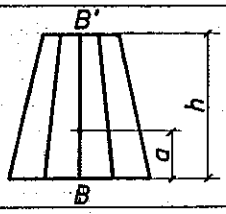
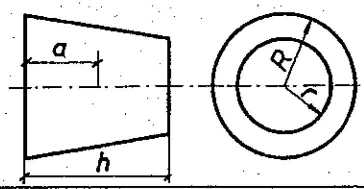
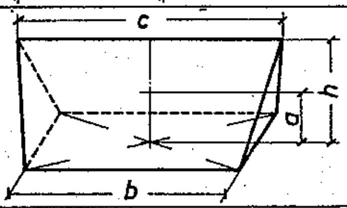
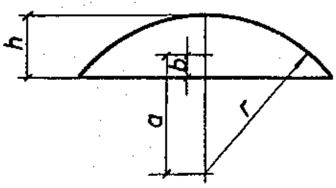
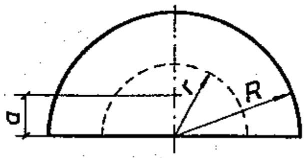
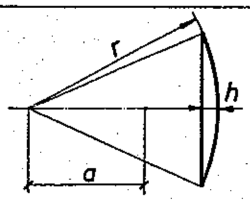
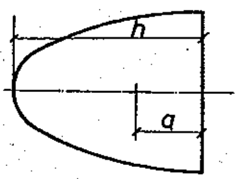
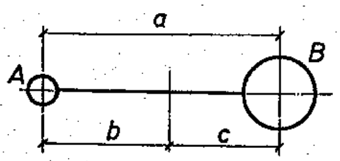
A=Area

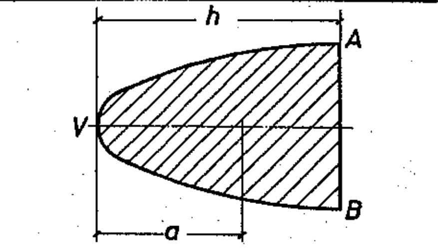
$$V=\frac{4\pi}{3}abc=4{,}1888\,abc$$

Si es de revolución: $b=c$

$$V=4{,}1888\,ab^2\quad;\quad A=\frac{4\pi}{\sqrt{2}}\,b\sqrt{a^2+b^2}$$

	BARRIL V = Volumen aproximado	Cuando los lados curvados son arcos de circulo: $V = \frac{1}{12} h(2D^2 + d^2) = 0{,}262\, h(2D^2 + d^2)$ Si son arcos de parábola: $V = 0{,}209\, h(2D^2 + Dd + \frac{3}{4} d^2)$
	TRIANGULO	c.d.g. del perimetro $d = \frac{h(b+c)}{2(a+b+c)}$
	TRIANGULO	$a = \frac{h}{3}$
	PARARALELOGRAMO	El c.d.g. tanto del perimetro como del área es el punto de intersección de las diagonales.
	SEGMENTO CIRCULAR	A = Area $b = \frac{c^3}{12A} = \frac{2}{3} \cdot \frac{r^3 \operatorname{sen}^3 \alpha}{A}$
	ARCO CIRCULAR	$a = \frac{r \cdot c}{l} = \frac{c(c^2 + 4h^2)}{8 \cdot l \cdot h}$
	SECTOR CIRCULAR	$b = \frac{2rc}{3 \cdot l} = \frac{r^2 c}{3A} = 38{,}197\, \frac{r \cdot \operatorname{sen} \alpha}{\alpha}$ A = Area
	ARCO CIRCULAR	$a = \frac{2}{3} h$ (aproximada)

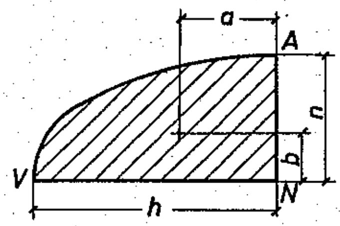
	PORCION DE ANILLO CIRCULAR $b = 38{,}197 \frac{(R^3 - r^3) \operatorname{sen} \alpha}{(R^2 - r^2)\alpha}$
	PIRAMIDE Y CONO — Sólido $a = \frac{1}{4} h$ — Superficie cónica $a = \frac{1}{3} h$
	PIRAMIDE TRUNCADA $a = \frac{h(B' + 2\sqrt{B' \cdot B} + 3B)}{4(B' + \sqrt{B' \cdot B} + B)}$
	TRONCO DE CONO — Sólido $a = \frac{h(R^2 + 2Rr + 3r^2)}{4(R^2 + Rr + r^2)}$ — Superficie cónica $a = \frac{h(R + 2r)}{3(R + r)}$
	CUÑA $a = \frac{h(b + c)}{2(2b + c)}$
	SEGMENTO ESFERICO $a = \frac{3(2r - h)^2}{4(3r - h)}$ $b = \frac{h(4r - h)}{4(3r - h)}$ — Para media esfera $a = b = \frac{3}{8} r$
	MITAD DE UNA ESFERA HUECA $a = \frac{3(R^4 - r^4)}{8(R^3 - r^3)}$
	SECTOR ESFERICO SOLIDO $a = \frac{3}{8}(1 + \cos \alpha) r = \frac{3}{8}(2r - h)$
	PARABOLOIDE SOLIDO $a = \frac{1}{3} h$
	DOS CUERPOS SOLIDOS $b = \frac{A \cdot a}{A + B}$ $c = \frac{B \cdot a}{A + B}$



PARABOLA

Superficie AVB

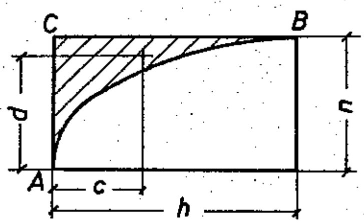
$$a = \frac{3h}{5}$$



MEDIA PARABOLA

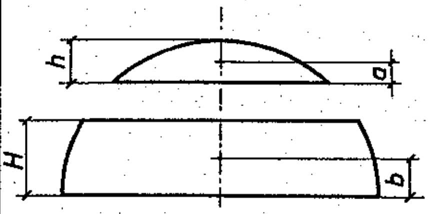
Superficie AVN

$$a = \frac{3h}{5} \qquad b = \frac{3n}{8}$$



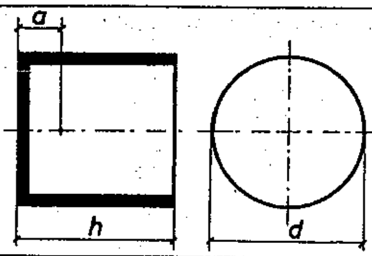
SUPERFICIE ABC

$$c = \frac{3h}{10} \quad ; \quad d = 0{,}75n$$



CASQUETE
Y
ZONA ESFERICA

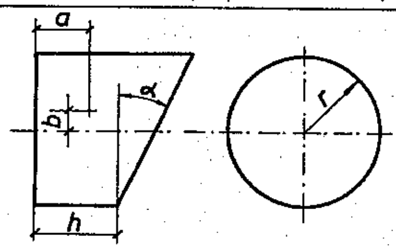
$$a = \frac{h}{2} \quad ; \quad b = \frac{H}{2}$$



DEPOSITO

Cilindro hueco de bases paralelas

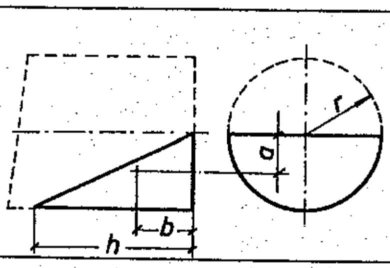
$$a = \frac{2h^2}{4h+d}$$



CILINDRO
DE BASES NO PARALELAS

$$a = \frac{h}{2} + \frac{r^2 \cdot tg^2\alpha}{8h}$$

$$b = \frac{r^2 \cdot tg\,\alpha}{4h}$$

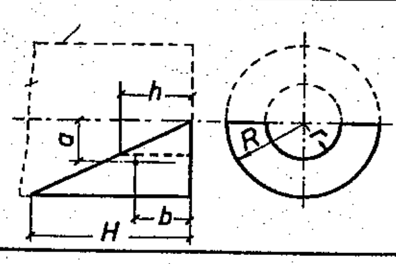


PARTE DE CILINDRO
SOLIDO

$$a = \frac{3}{16}\pi r \quad ; \quad b = \frac{3}{32}\pi h$$

PARTE DE CILINDRO
SUPERFICIE

$$a = \frac{1}{4}\pi r \quad ; \quad b = \frac{1}{8}\pi h$$



PARTE DE CILINDRO
HUECO

$$a = \frac{3}{16}\pi\,\frac{R^4 - r^4}{R^3 - r^3}$$

$$b = \frac{3}{32}\pi\,\frac{H^4 - h^4}{H^3 - h^3}$$