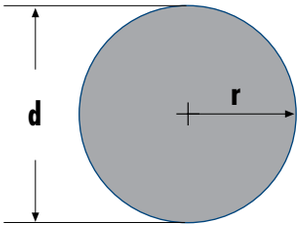
SUPERFICI E VOLUMI

CIRCONFERENZA

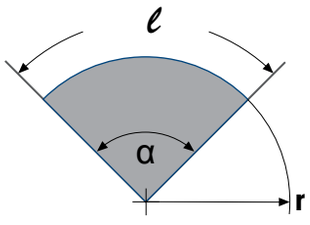


$c^* = 2\pi r = \pi d$

*circonferenza

$A = \pi r^2 = \frac{\pi d^2}{4}$

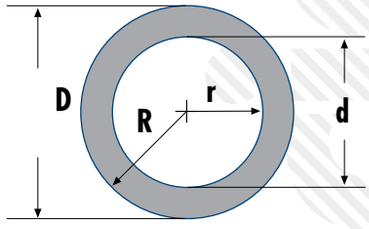
SETTORE CIRCOLARE



$A = 0{,}5 \cdot r\ell$

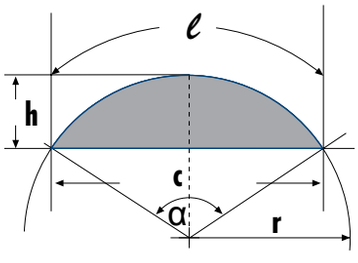
$\ell = \frac{\pi r \alpha}{180} \quad \alpha = \frac{57{,}269\ell}{r}$

CORONA CIRCOLARE



$A = \pi \cdot (R^2 - r^2)$

SEGMENTO CIRCOLARE



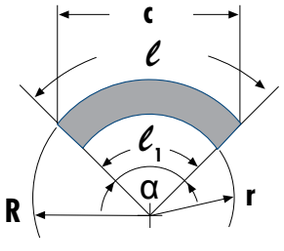
$A = 0{,}5 \cdot [r\ell - c \cdot (r - h)]$

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

$h = r \cdot [1 - \cos(\alpha/2)]$

$\alpha = \frac{57{,}296\ell}{r}$

ARCO DI CORONA CIRCOLARE

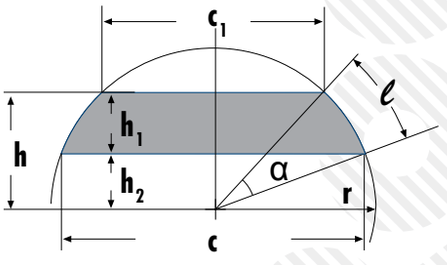


$A = \frac{\alpha \cdot \pi}{360} \cdot (R^2 - r^2)$

$A = 2R\,\mathrm{sen}\ \frac{\alpha}{2}$

$\alpha = \frac{180\ell}{\pi R}$

CORONA CIRCOLARE



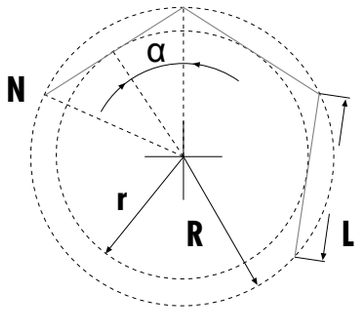
$A = r\ell \ \frac{(c_1 h) - (c h_2)}{2}$

$c = 2\sqrt{r - h_2 \cdot [2r - (r - h_2)]}$

$c_1 = 2\sqrt{r - h \cdot [2r - (r - h)]}$

$r = \frac{c^2/4 + (r-h_2)^2}{2\ (r-h_2)} \quad \ell = \frac{\pi r \alpha}{180}$

AREA DEI POLIGONI



$$L = 2R\,sen\alpha = 2r\,tg\alpha$$

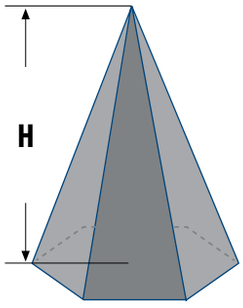
$$A = \frac{N\,ctg\alpha\,L^2}{4} = N\,tg\alpha\,r^2$$

$$R = \frac{R}{2sen\alpha} = \frac{r}{cos\alpha}$$

N = numero dei lati
L = lunghezza di un lato
R = raggio della circonferenza circoscritta
r = raggio della circonferenza inscritta
α = 180/N

N	A =			R =		L =		r =	
	L^2x	R^2x	r^2x	Lx	rx	Rx	rx	Rx	Lx
3	0,4330	1,2990	5,1962	0,5774	2,0000	1,7321	3,4641	0,5000	0,2887
4	1,0000	2,0000	4,0000	0,7071	1,4142	1,4142	2,0000	0,7071	0,5000
5	1,7205	2,3776	3,6327	0,8507	1,2361	1,1756	1,4531	0,8090	0,6882
6	2,5981	2,5981	3,4641	1,0000	1,1547	1,0000	1,1547	0,8660	0,8660
7	3,6339	2,7364	3,3710	1,1524	1,1099	0,8678	0,9631	0,9010	1,0383
8	4,8284	2,8284	3,3137	1,3066	1,0824	0,7654	0,8284	0,9239	1,2071
9	6,1818	2,8925	3,2757	1,4619	1,0642	0,6840	0,7279	0,9397	1,3737
10	7,6942	2,9389	3,2492	1,6180	1,0515	0,6180	0,6498	0,9511	1,5388
12	11,196	3,0000	3,2154	1,9319	1,0353	0,5176	0,5359	0,9659	1,8660
15	17,642	3,0505	3,1883	2,4049	1,0223	0,4158	0,4251	0,9781	2,3523
16	20,109	3,0615	3,1826	2,5629	1,0196	0,3902	0,3978	0,9808	2,5137
20	31,569	3,0902	3,1677	3,1962	1,0125	0,3129	0,3168	0,9877	3,1569
24	45,575	3,1058	3,1597	3,8306	1,0086	0,2611	0,2633	0,9914	3,7979
32	81,225	3,1214	3,1517	5,1011	1,0048	0,1960	0,1970	0,9952	5,0766
48	183,08	3,1326	3,1461	7,6449	1,0021	0,1308	0,1311	0,9979	7,6285
64	325,69	3,1365	3,1441	10,190	1,0012	0,0981	0,0983	0,9988	10,178

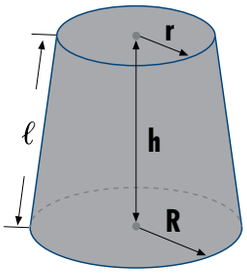
PIRAMIDE REGOLARE (BASE N LATI)



M = somma area di N triangoli isosceli

$$V = \frac{1}{3}\,h \cdot \text{area base}$$

TRONCO DI CONO A BASI PARALLELE



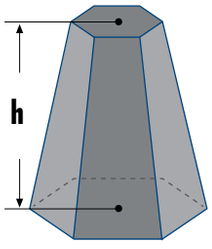
$$V = 1{,}0472\,h \cdot (R^2+Rr+r^2)$$

$$M = \pi\ell \cdot (R+r)$$

$$\ell = \sqrt{h^2+(R-r)^2}$$

SUPERFICI E VOLUMI

TRONCO DI PIRAMIDE A BASI PARALLELE

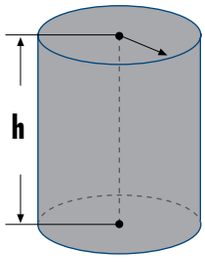


M = somma area di N trapezi

A e B = area basi

$$\mathbf{V} = \frac{h}{3}(A+B+\sqrt{AB})$$

CILINDRO CIRCOLARE RETTO

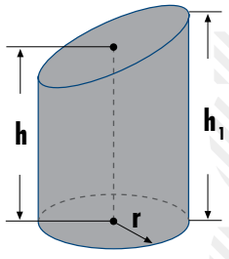


$$\mathbf{V} = \pi r^2 h$$

$$\mathbf{M} = 2\pi r h$$

superficie totale = $2\pi r\,(r + h)$

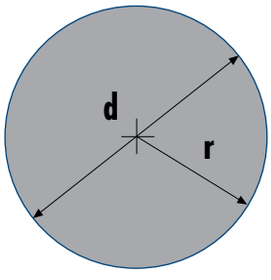
CILINDRO CIRCOLARE A SEZIONE OBLIQUA



$$\mathbf{M} = \pi r \cdot (h + h_1)$$

$$\mathbf{V} = \pi r^2 \frac{h + h_1}{2}$$

SFERA

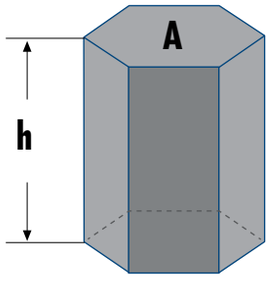


$$\mathbf{V} = \frac{4\pi r^3}{3}$$

$$\mathbf{r} = \sqrt[3]{\frac{3V}{4\pi}}$$

superficie totale = $4\pi r^2$

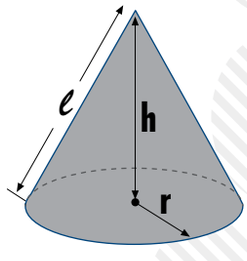
PRISMA



$$\mathbf{V} = h \cdot A$$

A = area del poligono

CONO RETTO



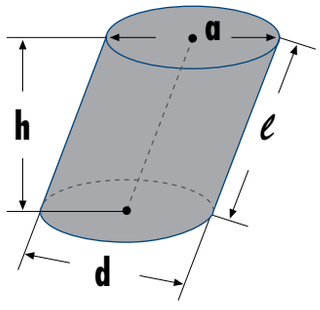
$$\mathbf{V} = 1{,}0472 \cdot r^2 h$$

$$\mathbf{M} = \pi r\sqrt{r^2 + h^2}\ \pi r\ell$$

$$\ell = \sqrt{r^2 + h^2}$$

SUPERFICI E VOLUMI

CILINDRO OBLIQUO A BASI PARALLELE

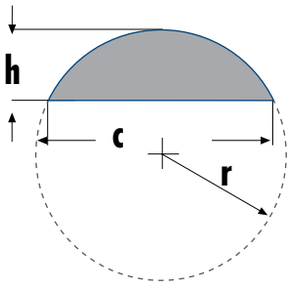


$$M = d \cdot \pi \cdot \ell$$

$$V = r^2 \cdot \ell \cdot \pi = 0{,}7854 \cdot a \cdot d \cdot h$$

superficie totale $= M + 2 \cdot (0{,}7854 \cdot a \cdot d)$

SEGMENTO SFERICO

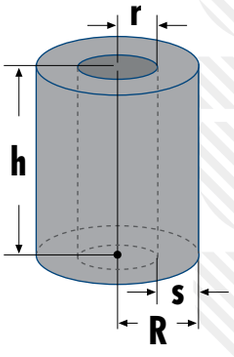


$$V = \pi h^2 \cdot (r - \frac{h}{3})$$

$$M = 2\pi rh = \pi \cdot (\frac{c^2}{4} + h^2)$$

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

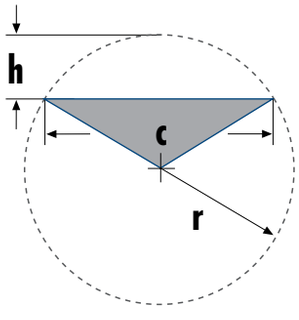
CILINDRO CAVO



$$V = \pi h(R^2-r^2) = \pi hs(2r+s) = \pi hs(2R-s)$$

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

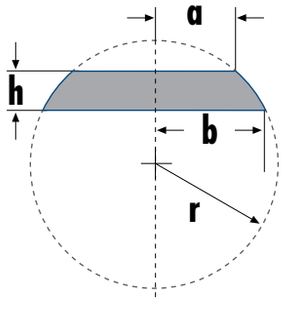
SETTORE SFERICO



$$V = \frac{2\pi r^2 h}{3} \qquad c = 2\sqrt{h(2r-h)}$$

superficie totale $= \pi r \cdot (2h + \frac{1}{2} c)$

ZONA SFERICA

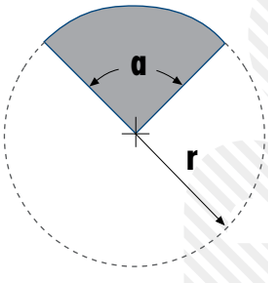


$$M = 2\pi rh$$

$$V = \frac{1}{6} \pi h \cdot (3a^2 + 3b^2 + h^2)$$

$$r = \sqrt{b^2 + (\frac{b^2 - a^2 - h^2}{2h})}$$

CUNEO SFERICO



$$V = \frac{\alpha}{360} \cdot \frac{4\pi r^2}{3}$$

$$M = \frac{\alpha}{360} \cdot 4\pi r^2$$