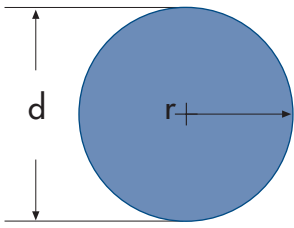


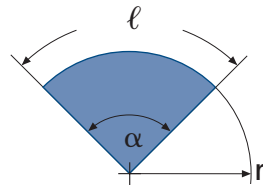
## CIRCONFERENZA



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

$$c \text{ (circonferenza)} = 2\pi r = \pi d$$

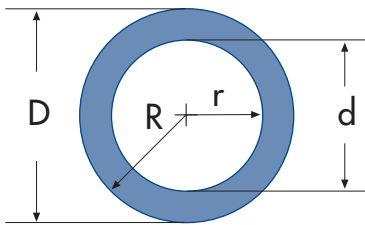
## SETTORE CIRCOLARE



$$A = 0,5 \cdot r \cdot l$$

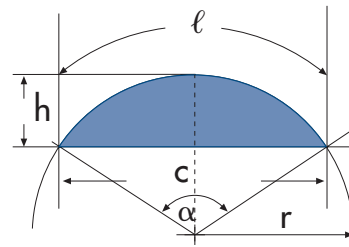
$$l = \frac{\pi r \alpha}{180} \quad \alpha = \frac{57,296 l}{r}$$

## CORONA CIRCOLARE



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

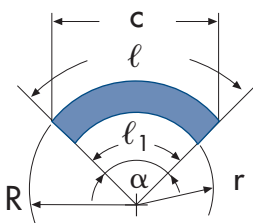
## SEGMENTO CIRCOLARE



$$A = 0,5 \cdot [r \cdot l - c \cdot (r - h)] \quad c = 2\sqrt{h(2r - h)}$$

$$\alpha = \frac{57,296 l}{r} \quad h = r \cdot [1 - \cos(\alpha/2)]$$

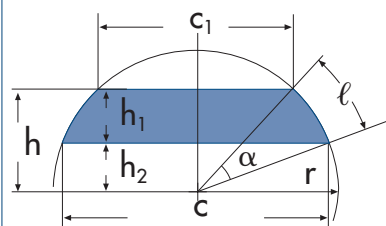
## ARCO DI CORONA CIRCOLARE



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

$$c = 2R \operatorname{sen} \frac{\alpha}{2} \quad \alpha = \frac{180 l}{\pi R}$$

## SEGMENTO CIRCOLARE A DUE BASI



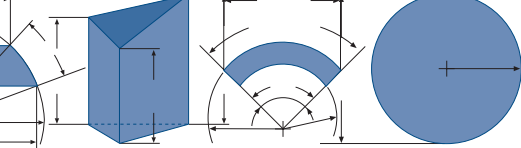
$$l = \frac{\pi r \alpha}{180}$$

$$A = r \ell \frac{(c_1 h) - (c_2 h)}{2}$$

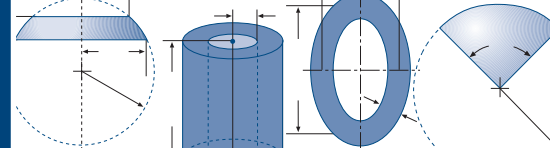
$$r = \frac{c^2/4 + (r - h_2)^2}{2(r - h_2)}$$

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

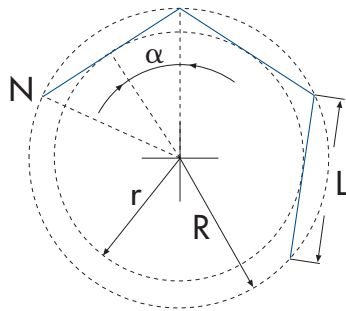
$$c_1 = 2\sqrt{r - h} \cdot [2r - (r - h)]$$



# SUPERFICI E VOLUMI



## AREA DEI POLIGONI



$$L = 2R\text{sen}\alpha = 2r\text{tg}\alpha$$

N = Numero dei lati

L = lunghezza di un lato

R = raggio della circonferenza circoscritta

r = raggio della circonferenza inscritta

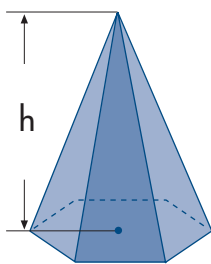
$\alpha = 180/N$

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

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

N	A =			R =		L =		r =	
	L <sup>2</sup> x	R <sup>2</sup> x	r <sup>2</sup> x	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

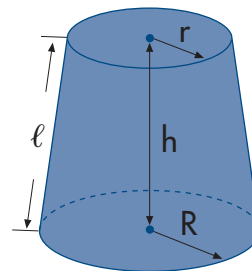
## PIRAMIDE REGOLARE (BASE N LATI)



M = somma area di N triangoli isosceli

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

## TRONCO DI CONO A BASI PARALLELE

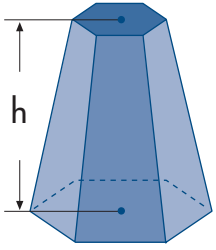


$$V = 1,0472h \cdot (R^2 + Rr + r^2)$$

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

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

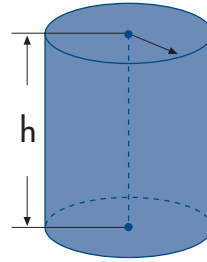
## TRONCO DI PIRAMIDE A BASI PARALLELE



$$V = \frac{h}{3} (A+B+\sqrt{AB}) \quad A \text{ e } B = \text{area basi}$$

$M = \text{somma area di } N \text{ trapezi}$

## CILINDRO CIRCOLARE RETTO

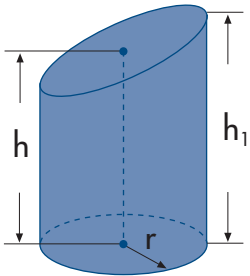


$$V = \pi r^2 h$$

$$M = 2\pi r h$$

Superficie totale =  $2\pi r(r+h)$

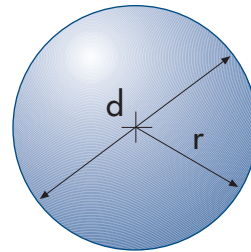
## CILINDRO RETTO A SEZIONE OBLIQUA



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

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

## SFERA

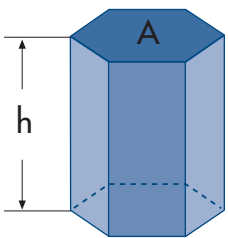


$$V = \frac{4\pi r^3}{3}$$

Superficie totale =  $4\pi r^2$

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

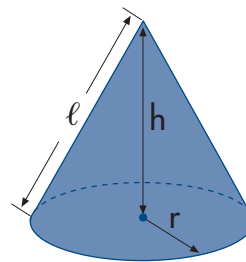
## PRISMA



$$V = h \cdot A$$

$A = \text{area del poligono}$

## CONO RETTO

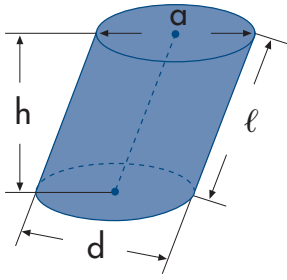


$$V = 1,0472 \cdot r^2 h$$

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

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

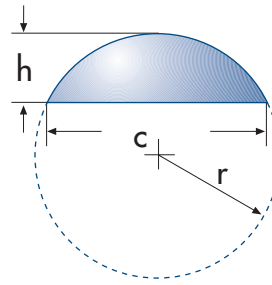
## CILINDRO OBLIQUO A BASI PARALLELE



$$V = r^2 \cdot \ell \cdot \pi = 0,7854 \cdot \alpha \cdot d \cdot h \quad M = d \cdot \pi \cdot \ell$$

$$\text{Superficie totale} = M + 2 \cdot (0,7854 \cdot \alpha \cdot d)$$

## SEGMENTO SFERICO



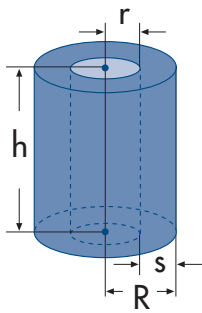
$$V = \pi h^2 \cdot \left( r - \frac{h}{3} \right)$$

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

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

$$r = \frac{c^2 + 4h^2}{8h}$$

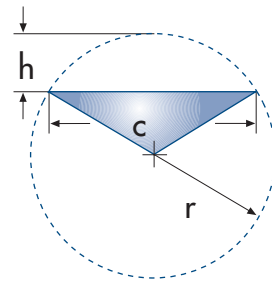
## CILINDRO CAVO



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

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

## SETTORE SFERICO

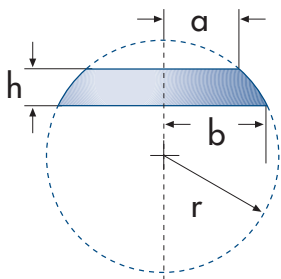


$$V = \frac{2\pi r^2 h}{3}$$

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

$$\text{Superficie totale} = \pi r \cdot \left( 2h + \frac{1}{2}c \right)$$

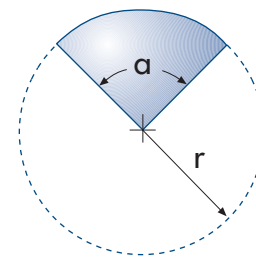
## ZONA SFERICA



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

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

## CUNEO SFERICO



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

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