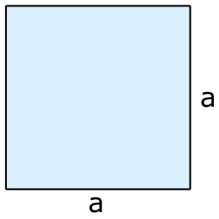
A = Area, S = Area, P = Perimetro, V = Volume

Figure piane

Quadrato



$A = a^2$

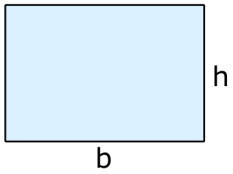
$P = 4a$

Angolo interno $\alpha = 90°$

Angolo esterno $\beta = 90°$

Diagonali $ND = 2$

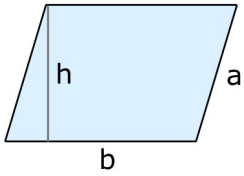
Rettangolo



$A = b \cdot h$

$P = 2b + 2h$

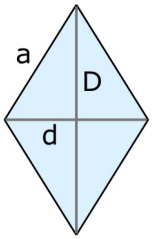
Parallelogramma (romboide)



$A = b \cdot h$

$P = 2b + 2a$

Rombo

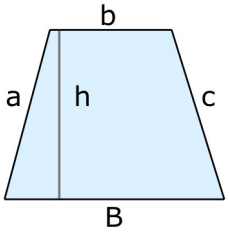


$A = \frac{d \cdot D}{2}$

$P = 4a$

$4a^2 = d^2 + D^2$

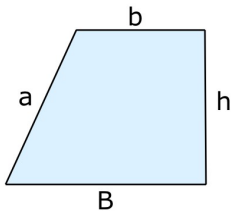
Trapezio scaleno



$A = \frac{b + B}{2} h$

$P = a + b + B + c$

Trapezio rettangolo

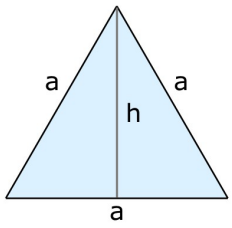


$$A = \frac{b+B}{2}h$$

$$P = a + b + B + h$$

$$a^2 = (B-b)^2 + h^2$$

Triangolo equilatero



$$A = \frac{a \cdot h}{2} = \frac{\sqrt{3}}{4}a^2$$

$$P = 3a$$

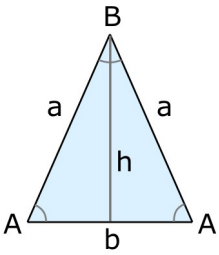
$$h = \frac{\sqrt{3}}{2}a$$

Angolo interno $\alpha = 60°$

Angolo esterno $\beta = 120°$

Diagonali $ND = 0$

Triangolo isoscele

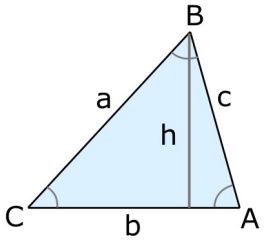


$$S = \frac{b \cdot h}{2} = \frac{a \cdot b \cdot \text{sen}\, A}{2}$$

$$P = 2a + b\,, \qquad h = a \cdot \text{sen}\, A$$

$$4a^2 = 4h^2 + b^2$$

Triangolo scaleno



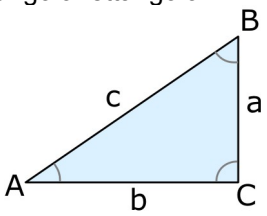
$$S = \frac{b \cdot h}{2}$$

Formula di Erone

$$S = \sqrt{s(s-a)(s-b)(s-c)} \qquad s = \frac{a+b+c}{2}$$

$$P = a + b + c \qquad h = c \cdot \text{sen}\, A = a \cdot \text{sen}\, C$$

Triangolo rettangolo

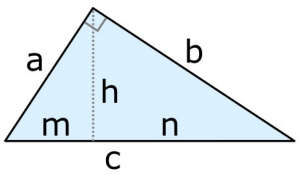


$$S = \frac{b \cdot a}{2} \qquad a = c \cdot \text{sen}\, A = c \cdot \cos B$$

$$P = a + b + c \qquad b = c \cdot \text{sen}\, B = c \cdot \cos A$$

Teorema di Pitagora

$$a^2 + b^2 = c^2$$



Primo teorema di Euclide

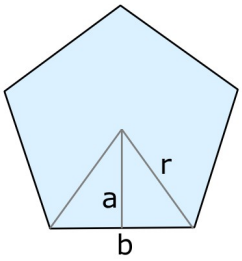
$$a^2 = m \cdot c \qquad b^2 = n \cdot c$$

$$c = m + n$$

Secondo teorema di Euclide

$$h^2 = m \cdot n$$

Pentagono regolare



$$P = 5b$$

$$A = \frac{P \cdot a}{2} = \frac{5a \cdot b}{2} = \frac{5}{8} r^2 \sqrt{10 + 2\sqrt{5}} = \frac{5}{2} r^2 \cdot \text{sen } 72°$$

$$4r^2 = 4a^2 + b^2$$

$$b = \frac{r}{2}\sqrt{10 - 2\sqrt{5}} = 2r \cdot \text{sen } 36°$$

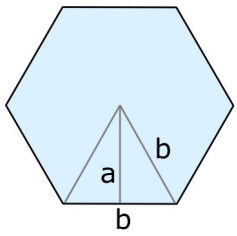
$$a = \frac{r}{4}\sqrt{6 + 2\sqrt{5}} = r \cdot \cos 36°$$

Angolo interno $\alpha = 108°$

Angolo esterno $\beta = 72°$

Diagonali $ND = 5$

Esagono regolare



$$P = 6b$$

$$A = \frac{P \cdot a}{2} = \frac{3\sqrt{3}}{2} b^2 = 3b^2 \cdot \text{sen } 60°$$

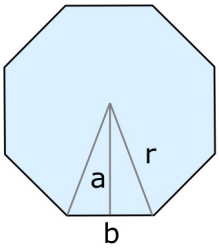
$$a = \frac{\sqrt{3}}{2} b = b \cdot \cos 30°$$

Angolo interno $\alpha = 120°$

Angolo esterno $\beta = 60°$

Diagonali $ND = 9$

Ottagono regolare



$$P = 8 \cdot b = 16 \cdot a \cdot \tan 22{,}5°$$

$$A = \frac{P \cdot a}{2} = 4 \cdot a \cdot b = 8 \cdot a^2 \cdot \tan 22{,}5° = \left(8\sqrt{2} - 8\right) a^2 = \frac{2b^2}{\tan 22{,}5°} = \frac{2b^2}{\sqrt{2} - 1}$$

$$a = r \cdot \cos 22{,}5°$$

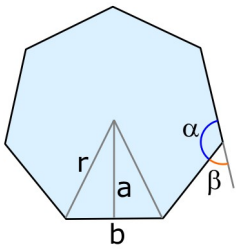
$$b = 2r \cdot \text{sen } 22{,}5°$$

Angolo interno $\alpha = 135°$

Angolo esterno $\beta = 45°$

Diagonali $ND = 20$

Poligono regolare di *n* lati



$$P = n \cdot b = 2n \cdot a \cdot \tan \frac{180°}{n}$$

$$A = \frac{P \cdot a}{2} = \frac{n \cdot a \cdot b}{2} = n \cdot a^2 \cdot \tan \frac{180°}{n}$$

$$a = r \cdot \cos \frac{180°}{n}$$

$$b = 2r \cdot \text{sen } \frac{180°}{n}$$

Angolo interno :

$$\alpha = \frac{(n-2) \cdot 180°}{n}$$

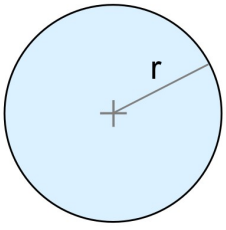
Angolo esterno :

$$\beta = 180° - \alpha$$

Diagonali :

$$ND = \frac{n \cdot (n-3)}{2}$$

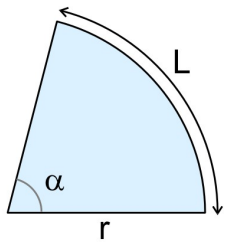
Circonferenza / cerchio



$$A = \pi r^2$$

$$P = 2\pi r$$

Settore circolare

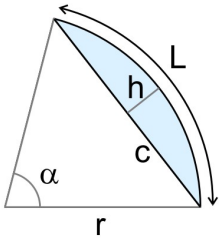


$$A = \pi r^2 \frac{\alpha}{360°}$$

$$L = \pi r \frac{\alpha}{180°}$$

$$P = 2r + L$$

Segmento circolare

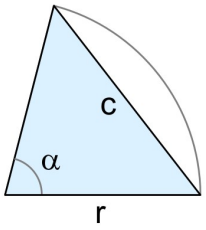


$$A = r^2\left(\frac{\pi \cdot \alpha}{360°} - \frac{\operatorname{sen}\alpha}{2}\right)$$

$$h = r\left(1 - \cos\frac{\alpha}{2}\right) \qquad c = 2r \cdot \operatorname{sen}\frac{\alpha}{2} \qquad L = \pi r \frac{\alpha}{180°}$$

$$P = L + c \qquad r = \frac{h}{2} + \frac{c^2}{8h}$$

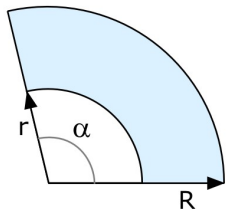
Triangolo circolare



$$A = r^2 \frac{\operatorname{sen}\alpha}{2} \qquad c = 2r \cdot \operatorname{sen}\frac{\alpha}{2}$$

$$P = 2r + c$$

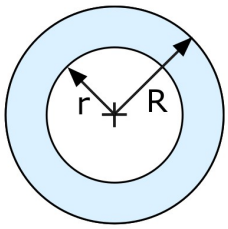
Trapezio circolare



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

$$P = 2\pi\,(R + r)\frac{\alpha}{360°} + 2(R - r)$$

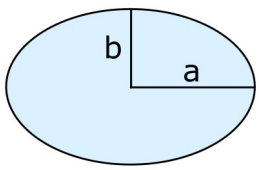
Corona circolare



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

$$P = 2\pi\,(R + r)$$

Ellisse

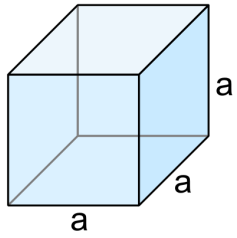


$$A = \pi\, a \cdot b$$

$$P \cong \pi\,(a + b)$$

$$P = 4\int_0^{\pi/2} \sqrt{a^2 \operatorname{sen}^2 t + b^2 \cos^2 t}\; dt$$

Cubo (esaedro)

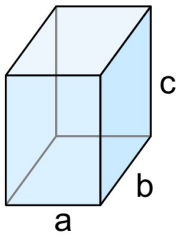


$$A = 6\,a^2$$

$$V = a^3$$

$$A_{FACCIA} = a^2$$

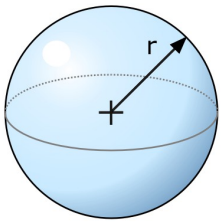
Parallelepipedo rettangolo



$$A = 2a{\cdot}b + 2a{\cdot}c + 2b{\cdot}c$$

$$V = a{\cdot}b{\cdot}c$$

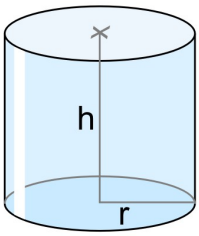
Sfera



$$A = 4\pi{\cdot}r^2$$

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

Cilindro

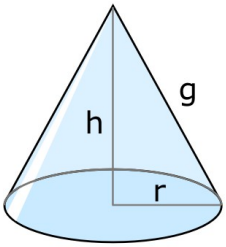


$$A_{TOTALE} = 2\pi\,r\,(h + r)$$

$$A_{BASI} = 2\pi\,r^2 \qquad A_{LATERALE} = 2\pi\,r{\cdot}h$$

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

Cono

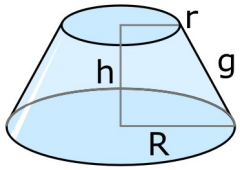


$$A_{TOTALE} = \pi\,r{\cdot}g + \pi\,r^2$$

$$A_{BASE} = \pi\,r^2 \qquad A_{LATERALE} = \pi\,r{\cdot}g$$

$$V = \frac{\pi\,r^2{\cdot}h}{3} \qquad g^2 = h^2 + r^2$$

Tronco di cono



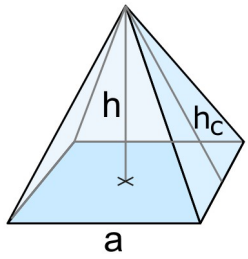
$$A_{TOTALE} = \pi\,[(r+R)\cdot g + r^2 + R^2]$$

$$A_{BASE\ MINORE} = \pi\, r^2 \qquad A_{BASE\ MAGGIORE} = \pi\, R^2$$

$$A_{LATERALE} = \pi\,(r+R)\cdot g$$

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

Piramide retta a base regolare

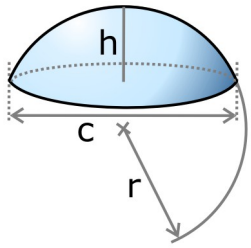


$$A_{TOTALE} = A_{LATERALE} + A_{BASE}$$

$$A_{LATERALE} = \frac{\text{Perimetro}_{BASE} \cdot h_C}{2}$$

$$V = \frac{A_{BASE} \cdot h}{3}$$

Segmento sferico ad 1 base

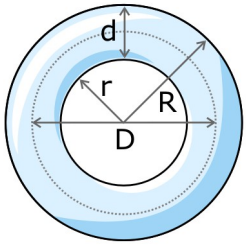


$$A_{TOTALE} = A_{CALOTTA\ SFERICA} + A_{BASE}$$

$$A_{BASE} = \frac{\pi\, c^2}{4} \qquad A_{CALOTTA\ SFERICA} = 2\pi\, r \cdot h = \frac{\pi}{4}\left(c^2 + 4h^2\right)$$

$$V = \frac{\pi}{6} h \left(\frac{3c^2}{4} + h^2 \right) = \pi\, h^2 \left(r - \frac{h}{3} \right) \qquad r = \frac{h}{2} + \frac{c^2}{8h}$$

Toro

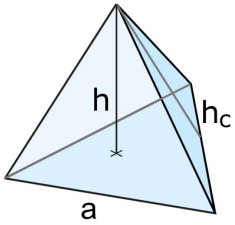


$$A = \pi^2 D \cdot d = \pi^2 (R^2 - r^2)$$

$$V = \frac{\pi^2}{4} D \cdot d^2 = \frac{\pi^2}{4} (R+r) \cdot (R-r)^2$$

$$D = R + r\,, \qquad d = R - r$$

Tetraedro

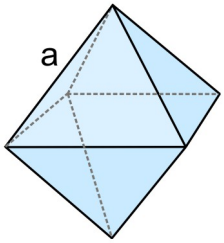


$$A = \sqrt{3}\, a^2$$

$$A_{FACCIA} = \frac{\sqrt{3}}{4} a^2 \qquad h_C = \frac{\sqrt{3}}{2} a \qquad h = \frac{\sqrt{6}}{3} a$$

$$V = \frac{\sqrt{2}}{12} a^3$$

Ottaedro

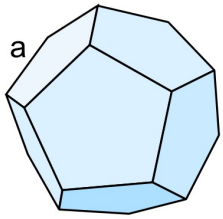


$$A = 2\sqrt{3}\,a^2$$

$$A_{FACCIA} = \frac{\sqrt{3}}{4}\,a^2$$

$$V = \frac{\sqrt{2}}{3}\,a^3$$

Dodecaedro

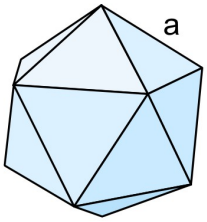


$$A = 3\sqrt{25+10\sqrt{5}}\,a^2$$

$$A_{FACCIA} = \frac{\sqrt{25+10\sqrt{5}}}{4}\,a^2$$

$$V = \frac{15+7\sqrt{5}}{4}\,a^3$$

Icosaedro



$$A = 5\sqrt{3}\,a^2$$

$$A_{FACCIA} = \frac{\sqrt{3}}{4}\,a^2$$

$$V = \frac{5}{12}\left(3+\sqrt{5}\right)a^3$$