Formule di geometria

AREA E PERIMETRO

Quadrato

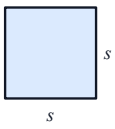
AREA

$A = s^2$

PERIMETRO

$P = 4s$

s lato



Rettangolo

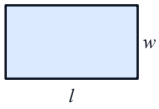
AREA

$A = lw$

PERIMETRO

$P = 2l + 2w$

l lunghezza w larghezza



Triangolo

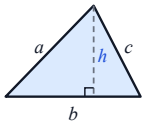
AREA

$A = \frac{1}{2}bh$

PERIMETRO

$P = a + b + c$

b base h altezza
a, b, c lati



Parallelogramma

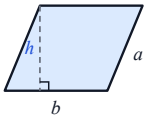
AREA

$A = bh$

PERIMETRO

$P = 2a + 2b$

b base h altezza a lato

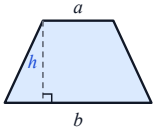


Trapezio

AREA

$A = \frac{1}{2}(a + b)h$

a, b lati paralleli h altezza



Rombo

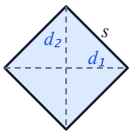
AREA

$A = \frac{1}{2}d_1d_2$

PERIMETRO

$P = 4s$

d_1, d_2 diagonali s lato



Poligono regolare

AREA

$A = \frac{1}{2}aP$

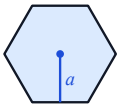
SOMMA DEGLI ANGOLI INTERNI

$S = (n - 2) \cdot 180°$

OGNI ANGOLO INTERNO

$\frac{(n - 2) \cdot 180°}{n}$

a apotema P perimetro n numero di lati



CERCHI

Cerchio

LUNGHEZZA DELLA CIRCONFERENZA

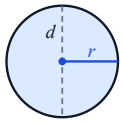
$C = 2\pi r = \pi d$

AREA

$A = \pi r^2$

$d = 2r$

r raggio d diametro



Arco e settore circolare

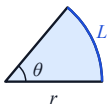
LUNGHEZZA DELL'ARCO

$L = \frac{\theta}{360°} \cdot 2\pi r$

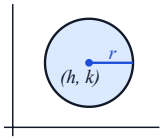
AREA DEL SETTORE

$A = \frac{\theta}{360°} \cdot \pi r^2$

θ angolo al centro r raggio



Equazione della circonferenza



$(x - h)^2 + (y - k)^2 = r^2$

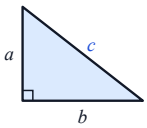
(h, k) centro r raggio

TRIANGOLI

Teorema di Pitagora

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

a, b cateti c ipotenusa



Angoli

ANGOLI DI UN TRIANGOLO

$\alpha + \beta + \gamma = 180°$

ANGOLI COMPLEMENTARI

$\alpha + \beta = 90°$

ANGOLI SUPPLEMENTARI

$\alpha + \beta = 180°$

Triangoli rettangoli notevoli

LATI DEL 30-60-90

$x : x\sqrt{3} : 2x$

LATI DEL 45-45-90

$x : x : x\sqrt{2}$

Triangolo equilatero

AREA

$A = \frac{\sqrt{3}}{4}s^2$

ALTEZZA

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

s lato

Formula di Erone

AREA

$A = \sqrt{s(s - a)(s - b)(s - c)}$

$s = \frac{a + b + c}{2}$

a, b, c lati s semiperimetro

VOLUME E SUPERFICIE TOTALE

Cubo

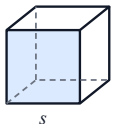
VOLUME

$V = s^3$

SUPERFICIE TOTALE

$SA = 6s^2$

s lato



Parallelepipedo rettangolo

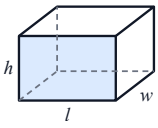
VOLUME

$V = lwh$

SUPERFICIE TOTALE

$SA = 2(lw + lh + wh)$

l lunghezza w larghezza
h altezza



Prisma

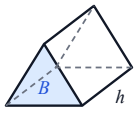
VOLUME

$V = Bh$

SUPERFICIE TOTALE

$SA = 2B + Ph$

B area di base
P perimetro di base
h altezza



Cilindro

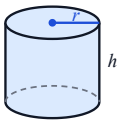
VOLUME

$V = \pi r^2 h$

SUPERFICIE TOTALE

$SA = 2\pi r^2 + 2\pi rh$

r raggio h altezza



Cono

VOLUME

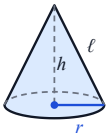
$V = \frac{1}{3}\pi r^2 h$

SUPERFICIE TOTALE

$SA = \pi r^2 + \pi r\ell$

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

r raggio h altezza
ℓ apotema



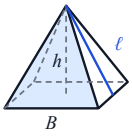
Piramide

VOLUME

$V = \frac{1}{3}Bh$

SUPERFICIE TOTALE

$SA = B + \frac{1}{2}P\ell$



B area di base
P perimetro di base
h altezza ℓ apotema

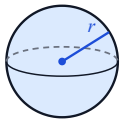
Sfera

VOLUME

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

SUPERFICIE TOTALE

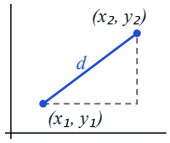
$SA = 4\pi r^2$



r raggio

GEOMETRIA ANALITICA

Distanza tra due punti



$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

(x_1, y_1), (x_2, y_2) i due punti

Punto medio

$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

(x_1, y_1), (x_2, y_2) i due punti

Pendenza

$m = \frac{y_2 - y_1}{x_2 - x_1}$

RETTE PARALLELE

$m_1 = m_2$

RETTE PERPENDICOLARI

$m_1 \cdot m_2 = -1$

m pendenza

Equazione della retta

FORMA ESPLICITA

$y = mx + b$

RETTA PER UN PUNTO

$y - y_1 = m(x - x_1)$

m pendenza b intercetta sull'asse y