# Rumus geometri

coddy.tech/math/id/formulas/geometry

## LUAS DAN KELILING

### Persegi

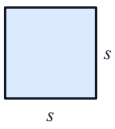
LUAS

$A = s^2$

KELILING

$P = 4s$

$s$ sisi




### Persegi panjang

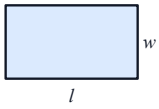
LUAS

$A = lw$

KELILING

$P = 2l + 2w$

$l$ panjang $w$ lebar




### Segitiga

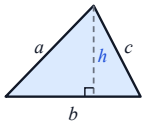
LUAS

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

KELILING

$P = a + b + c$

$b$ alas $h$ tinggi
$a$, $b$, $c$ sisi-sisi




### Jajar genjang

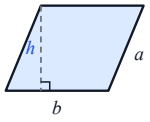
LUAS

$A = bh$

KELILING

$P = 2a + 2b$

$b$ alas $h$ tinggi $a$ sisi

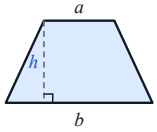



### Trapesium

LUAS

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

$a$, $b$ sisi sejajar $h$ tinggi




### Belah ketupat

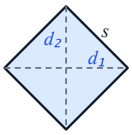
LUAS

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

KELILING

$P = 4s$

$d_1$, $d_2$ diagonal $s$ sisi




### Segi banyak beraturan

LUAS

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

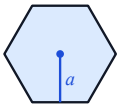
JUMLAH SUDUT DALAM

$S = (n - 2) \cdot 180°$

BESAR SETIAP SUDUT DALAM

$\frac{(n - 2) \cdot 180°}{n}$

$a$ apotema $P$ keliling $n$ banyak sisi




## LINGKARAN

### Lingkaran

KELILING LINGKARAN

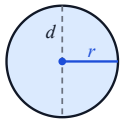
$C = 2\pi r = \pi d$

LUAS

$A = \pi r^2$

$d = 2r$

$r$ jari-jari $d$ diameter




### Busur dan juring

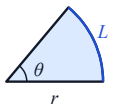
PANJANG BUSUR

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

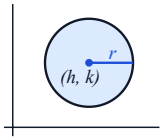
LUAS JURING

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

$\theta$ sudut pusat $r$ jari-jari




### Persamaan lingkaran




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

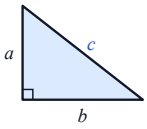
$(h, k)$ pusat $r$ jari-jari

## SEGITIGA

### Teorema Pythagoras

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

$a$, $b$ sisi siku-siku
$c$ sisi miring




### Sudut

SUDUT-SUDUT SEGITIGA

$\alpha + \beta + \gamma = 180°$

SUDUT BERPENYIKU

$\alpha + \beta = 90°$

SUDUT BERPELURUS

$\alpha + \beta = 180°$

### Segitiga siku-siku istimewa

SISI 30-60-90

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

SISI 45-45-90

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

### Segitiga sama sisi

LUAS

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

TINGGI

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

$s$ sisi

### Rumus Heron

LUAS

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

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

$a$, $b$, $c$ sisi-sisi $s$ setengah keliling

## VOLUME DAN LUAS PERMUKAAN

### Kubus

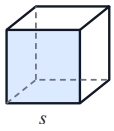
VOLUME

$V = s^3$

LUAS PERMUKAAN

$SA = 6s^2$

$s$ sisi




### Balok

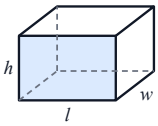
VOLUME

$V = lwh$

LUAS PERMUKAAN

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

$l$ panjang $w$ lebar $h$ tinggi




### Prisma

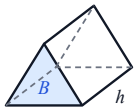
VOLUME

$V = Bh$

LUAS PERMUKAAN

$SA = 2B + Ph$

$B$ luas alas $P$ keliling alas
$h$ tinggi




### Tabung

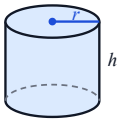
VOLUME

$V = \pi r^2 h$

LUAS PERMUKAAN

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

$r$ jari-jari $h$ tinggi




### Kerucut

VOLUME

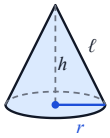
$V = \frac{1}{3}\pi r^2 h$

LUAS PERMUKAAN

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

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

$r$ jari-jari $h$ tinggi
$\ell$ tinggi miring




### Limas

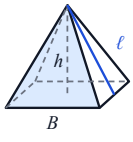
VOLUME

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

LUAS PERMUKAAN

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

$B$ luas alas $P$ keliling alas
$h$ tinggi $\ell$ tinggi miring




### Bola

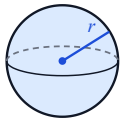
VOLUME

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

LUAS PERMUKAAN

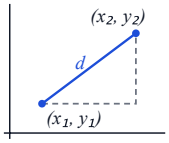
$SA = 4\pi r^2$

$r$ jari-jari



## GEOMETRI KOORDINAT

### Rumus jarak




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

$(x_1, y_1)$, $(x_2, y_2)$ kedua titik

### Rumus titik tengah

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

$(x_1, y_1)$, $(x_2, y_2)$ kedua titik

### Gradien

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

GARIS SEJAJAR

$$m_1 = m_2$$

GARIS TEGAK LURUS

$$m_1 \cdot m_2 = -1$$

$m$ gradien

### Persamaan garis

BENTUK GRADIEN-TITIK POTONG

$$y = mx + b$$

BENTUK TITIK-GRADIEN

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

$m$ gradien $b$ titik potong sumbu y