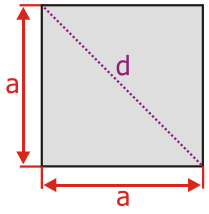
Formelblatt

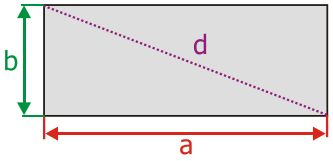
Lernen mit Spass
www.lernen-mit-spass.ch

Quadrat



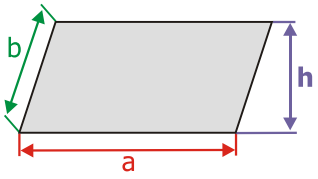
$A = a^2$
$d = a * 1{,}414$
$u = 4a$

Rechteck



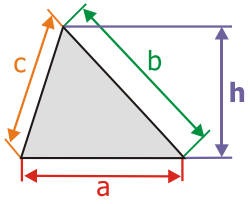
$A = a * b$
$a = A / b$
$b = A / a$
$u = 2 * (a + b)$
$a = u / 2 - b$
$d = \sqrt{(a^2 + b^2)}$

Parallelogramm



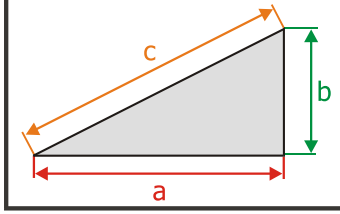
$A = a * h$
$a = A / h$
$h = A / a$
$u = 2 * (a + b)$
$a = u / 2 - b$

Dreieck



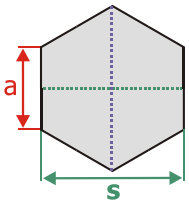
$A = a * h / 2$
$a = 2A / h$
$h = 2A / a$
$u = a + b + c$
$a = u - (b + c)$

Rechtwinkliges Dreieck (Pythagoras)



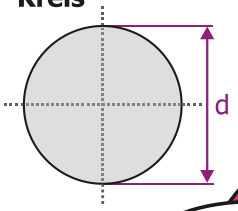
$c^2 = a^2 + b^2$
$b^2 = c^2 - a^2$
$a^2 = c^2 - b^2$
$a = \sqrt{c^2 - b^2}$

Reguläres Sechseck



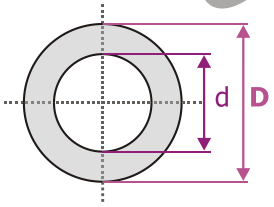
$s = a\sqrt{3} = a * 1{,}732$
$A = \frac{3a^2}{2} * \sqrt{3}$

Kreis



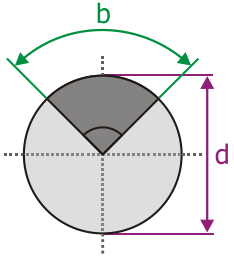
$u = d * \pi$
$d = \frac{u}{\pi}$
$A = \frac{d^2 \pi}{4}$

Kreisring



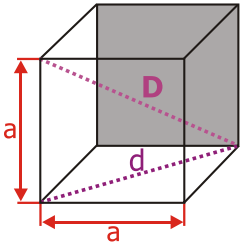
$A = \frac{\pi * (D^2 - d^2)}{4}$
$D = \sqrt{\frac{4A}{\pi} + d^2}$
$d = \sqrt{D^2 - \frac{4A}{\pi}}$

Kreisausschnitt (Sektor)



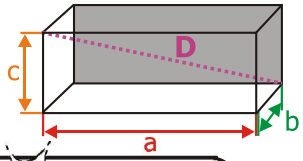
$b = \frac{d * \pi * \alpha}{360}$
$A = \frac{b * d}{4}$
$d = \frac{4 * A}{b}$
$d = \frac{360 * b}{\pi * \alpha}$

Würfel



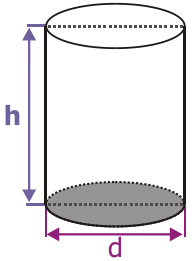
$V = a^3$
$d = a * \sqrt{2}$
$D = a * \sqrt{3}$
$O = 6 * a^2$

Quader



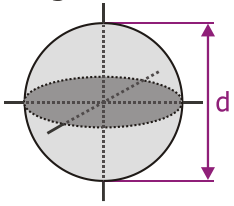
$V = a * b * c$
$a = \frac{V}{b * c}$
$b = \frac{V}{a * c}$

Zylinder



$V = \frac{d^2 * \pi * h}{4}$
$O = \frac{d * \pi (2h + d)}{2}$
$d = \sqrt{\frac{4V}{\pi * h}}$

Kugel



$V = \frac{d^3 * \pi}{6}$
$O = d^2 * \pi$
$d = \sqrt[3]{\frac{6V}{\pi}}$

Binomische Formeln

1. binomische Formel:
$(a + b)^2 = a^2 + 2ab + b^2$

2. binomische Formel:
$(a - b)^2 = a^2 - 2ab + b^2$

3. binomische Formel:
$(a + b)(a - b) = a^2 - b^2$

Längenmasse

1 mm	(Millimeter)	= 1 /1000 m	
1 cm	(Zentimeter)	= 1 /100 m	= 10 mm
1 dm	(Dezimeter)	= 1 /10 m	= 10 cm
1 m	**(Meter)**	= 1 m	= 10 dm
1 hm	(Hektometer)	= 1 * 100 m	= 100 m

Flächenmasse

1 cm^2	= 100 mm^2	
1 dm^2	= 100 cm^2	
1 m^2	= 100 dm^2	
1 a	= 100 m^2	= 10 m * 10 m
1 ha	= 100 a	= 100 m * 100 m
1 km^2	= 100 ha	= 1000 m * 1000 m

Körpermasse

1 cm^3	= 1000 mm^3
1 dm^3	= 1000 cm^3
1 m^3	= 1000 dm^3

Gewichte

1 g	= 1000 mg
1 kg	= 1000 g
1 t	= 1000 kg (t = Tonne)

Hohlmasse

1 ml	(Milliliter)	= 1 /1000 l	
1 cl	(Zentiliter)	= 1 /100 l	= 10 ml
1 dl	(Deziliter)	= 1 /10 l	= 10 cl
1 l	**(Liter)**	= 1 liter	= 10 dl
1 hl	(Hektoliter)	= 1 * 100 l	= 100 l

Abkürzungen

O = Oberfläche
A = Fläche (Englisch = Area)
V = Volumen
h = Höhe
d = Diagonale
α = Alpha
u = Umfang
$\pi \cong 3.14$