

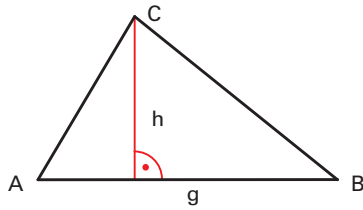
Schriftliche Prüfungen (ESA, MSA) und Überprüfungen (Gym)

Mathematische Formeln

Flächen

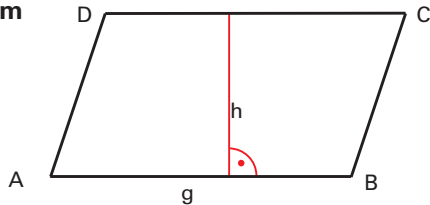
Dreieck

$$A = \frac{g \cdot h}{2}$$



Parallelogramm

$$A = g \cdot h$$

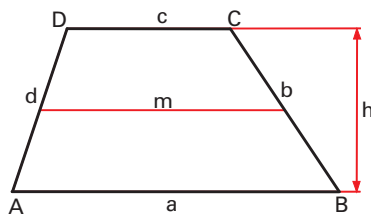


Trapez

$$A = \frac{a+c}{2} \cdot h$$

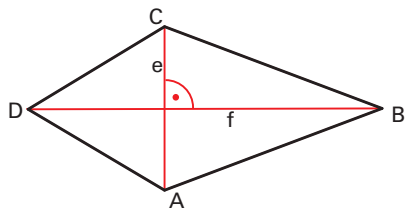
$$m = \frac{a+c}{2}$$

$$A = m \cdot h$$



Drachen

$$A = \frac{1}{2} \cdot e \cdot f$$

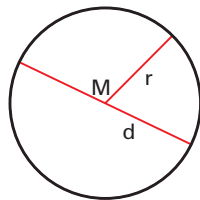


Kreisfläche

$$A = \pi \cdot r^2$$

Kreisumfang

$$U = 2 \cdot \pi \cdot r = \pi \cdot d$$

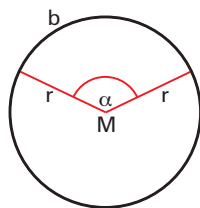


Kreis Sektor

$$A = \frac{\pi \cdot r^2 \cdot \alpha}{360^\circ}$$

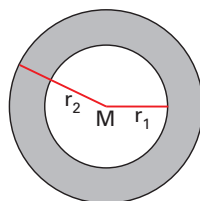
Bogenlänge

$$b = \frac{\pi \cdot r \cdot \alpha}{180^\circ}$$



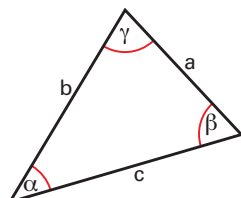
Kreisring

$$A = \pi \cdot (r_2^2 - r_1^2)$$



Sinussatz

$$\frac{a}{\sin \alpha} = \frac{b}{\sin \beta} = \frac{c}{\sin \gamma}$$



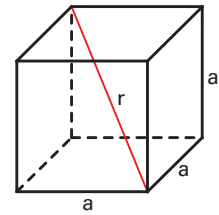
Körper

Würfel

$$V = a^3$$

$$O = 6 \cdot a^2$$

$$r = a\sqrt{3}$$

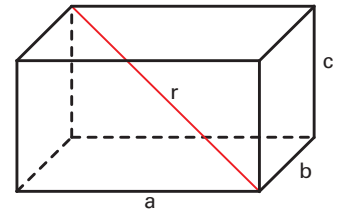


Quader

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

$$O = 2(ab + ac + bc)$$

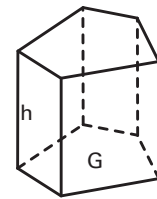
$$r = \sqrt{a^2 + b^2 + c^2}$$



Prisma

$$V = G \cdot h$$

$$O = 2 \cdot G + M$$



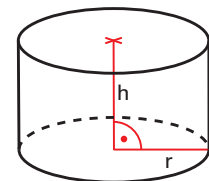
Zylinder

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

$$O = 2 \cdot \pi \cdot r \cdot (r + h)$$

$$O = 2 \cdot \pi \cdot r^2 + 2 \cdot \pi \cdot r \cdot h$$

$$M = 2 \cdot \pi \cdot r \cdot h$$



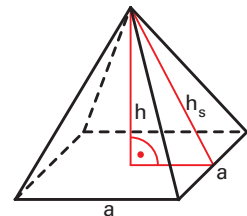
Pyramide

$$V = \frac{1}{3} \cdot G \cdot h$$

quadratische Pyramide

$$V = \frac{1}{3} \cdot a^2 \cdot h$$

$$O = a^2 + 2 \cdot a \cdot h_s$$



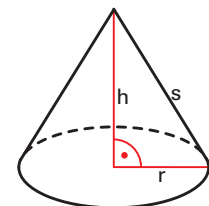
Kegel

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

$$O = \pi \cdot r \cdot (r + s)$$

$$O = \pi \cdot r^2 + \pi \cdot r \cdot s$$

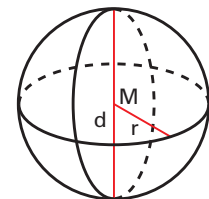
$$M = \pi \cdot r \cdot s$$



Kugel

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

$$O = 4 \cdot \pi \cdot r^2$$



Kosinussatz

$$a^2 = b^2 + c^2 - 2 \cdot b \cdot c \cdot \cos \alpha$$

$$b^2 = a^2 + c^2 - 2 \cdot a \cdot c \cdot \cos \beta$$

$$c^2 = a^2 + b^2 - 2 \cdot a \cdot b \cdot \cos \gamma$$

