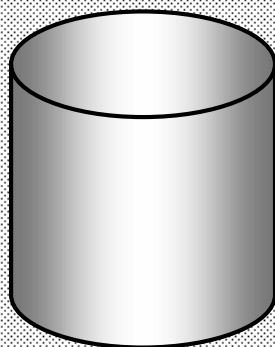


Formelsammlung

$$x + 3$$

$$\sqrt{45}$$



Ausgabe August 2009

Nur diese Formelsammlung darf bei der Prüfung 2010 benutzt werden.

Maßeinheiten

Längen

$$\begin{aligned}1 \text{ km} &= 1000 \text{ m} \\1 \text{ m} &= 10 \text{ dm} \\1 \text{ dm} &= 10 \text{ cm} \\1 \text{ cm} &= 10 \text{ mm}\end{aligned}$$

Flächeninhalt

$$\begin{aligned}1 \text{ km}^2 &= 100 \text{ ha} \\1 \text{ ha} &= 100 \text{ a} \\1 \text{ a} &= 100 \text{ m}^2 \\1 \text{ m}^2 &= 100 \text{ dm}^2 \\1 \text{ dm}^2 &= 100 \text{ cm}^2 \\1 \text{ cm}^2 &= 100 \text{ mm}^2\end{aligned}$$

Volumen

$$\begin{aligned}1 \text{ m}^3 &= 1000 \text{ dm}^3 \\1 \text{ dm}^3 &= 1000 \text{ cm}^3 \\1 \text{ cm}^3 &= 1000 \text{ mm}^3 \\1 \text{ hl} &= 100 \ell & 1 \ell &= 1 \text{ dm}^3 \\1 \ell &= 1000 \text{ ml} & 1 \text{ ml} &= 1 \text{ cm}^3\end{aligned}$$

Masse

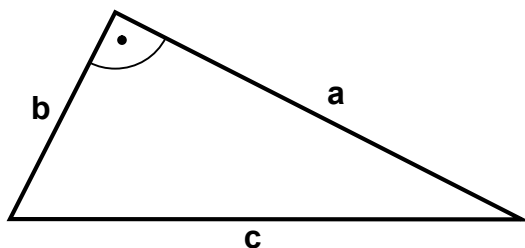
$$\begin{aligned}1 \text{ t} &= 1000 \text{ kg} \\1 \text{ kg} &= 1000 \text{ g} \\1 \text{ g} &= 1000 \text{ mg}\end{aligned}$$

Zeit

$$\begin{aligned}1 \text{ Tag} &= 24 \text{ h} \\1 \text{ h} &= 60 \text{ min} \\1 \text{ min} &= 60 \text{ s}\end{aligned}$$

Satz des Pythagoras

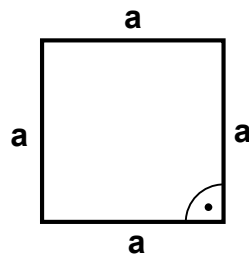
Im rechtwinkligen Dreieck gilt:



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

Flächen: Flächeninhalt A und Umfang U

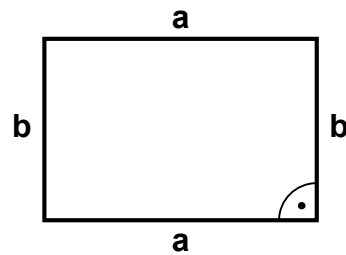
Quadrat



$$A = a^2$$

$$U = 4 \cdot a$$

Rechteck

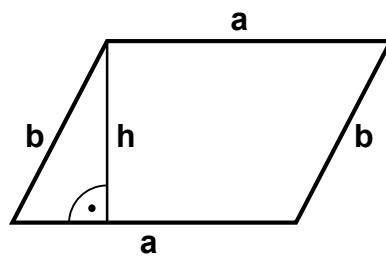


$$A = a \cdot b$$

$$U = 2 \cdot a + 2 \cdot b$$

$$= 2 \cdot (a + b)$$

Parallelogramm

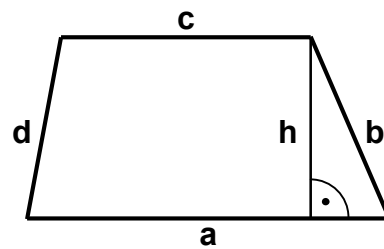


$$A = a \cdot h$$

$$U = 2 \cdot a + 2 \cdot b$$

$$= 2 \cdot (a + b)$$

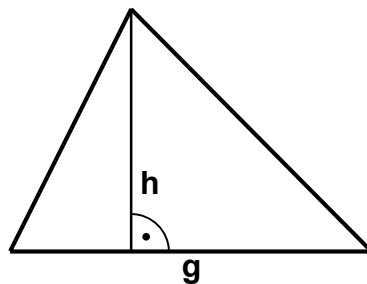
Trapez



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

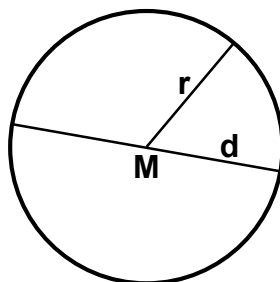
$$U = a + b + c + d$$

Dreieck



$$A = \frac{1}{2} \cdot g \cdot h$$

Kreis



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

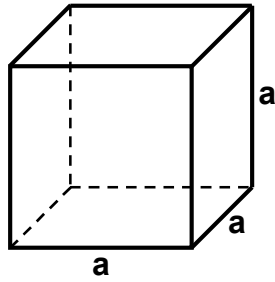
$$= \frac{\pi}{4} \cdot d^2$$

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

$$= \pi \cdot d$$

Körper: Volumen V, Oberfläche O, Grundfläche A_G, Mantelfläche M

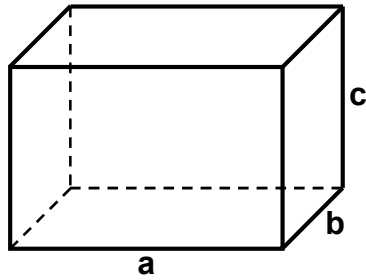
Würfel



$$V = a^3$$

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

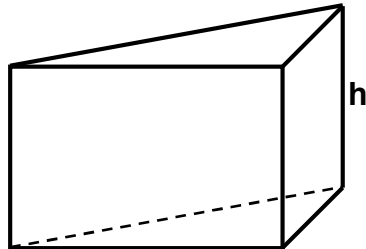
Quader



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

$$O = 2 \cdot a \cdot b + 2 \cdot a \cdot c + 2 \cdot b \cdot c$$

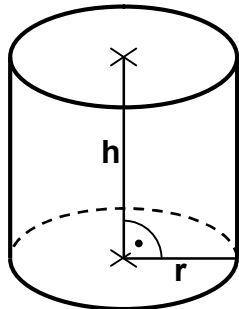
Prisma



$$V = A_G \cdot h$$

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

Zylinder



$$V = A_G \cdot h$$

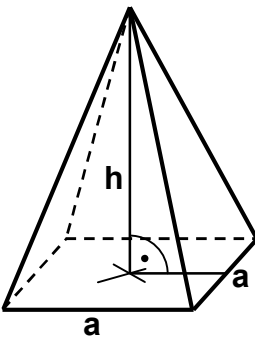
$$= \pi \cdot r^2 \cdot h$$

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

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

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

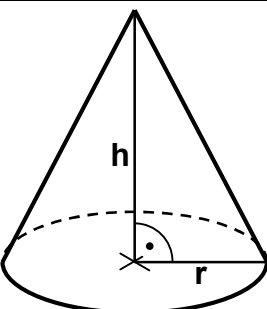
Quadratische Pyramide



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

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

Kegel



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

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

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