

Stereometrie

Volumenmass

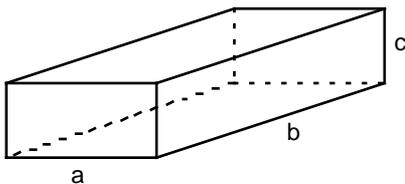
Einheitsvolumen := Würfel mit Kantenlänge 1



$$V = 1$$

Volumenberechnung

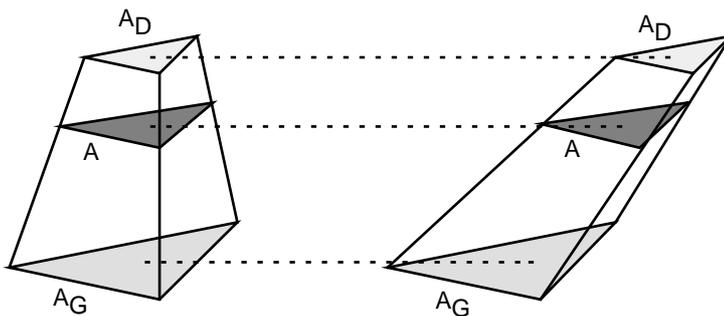
Quader



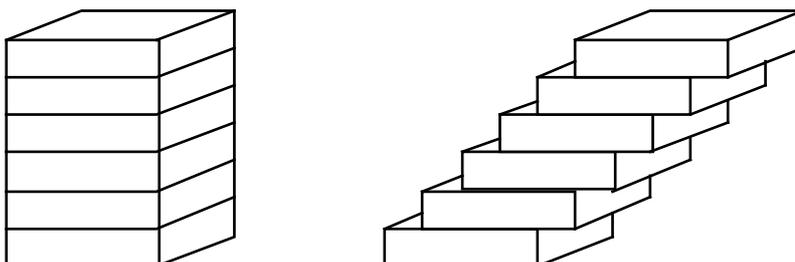
$$V = a \cdot b \cdot c$$

Satz von Cavalieri

Körper mit inhaltsgleichem Querschnitt in gleichen Höhen haben gleiches Volumen.

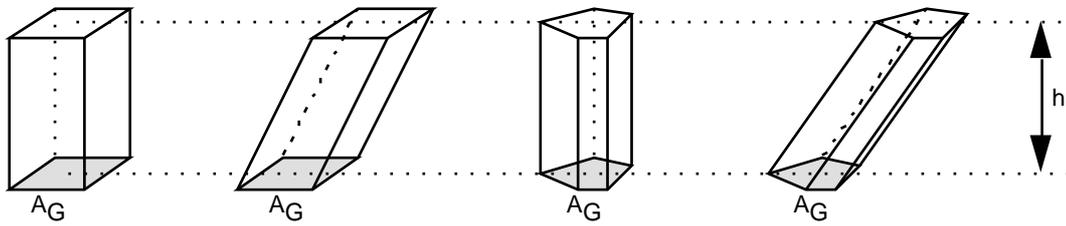


Veranschaulichung des Satzes von Cavalieri:

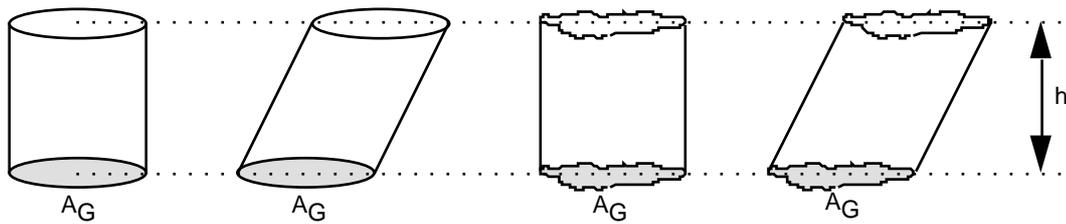


Prisma, Zylinder

Prisma



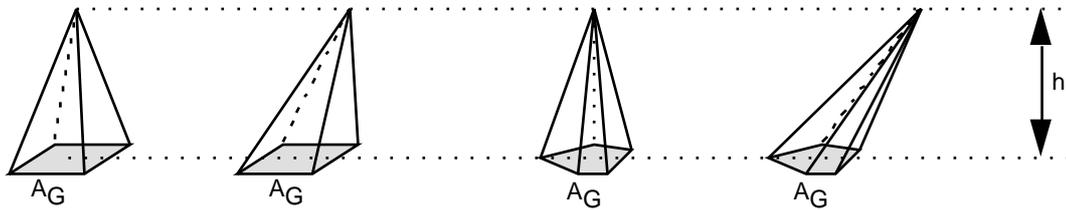
Zylinder



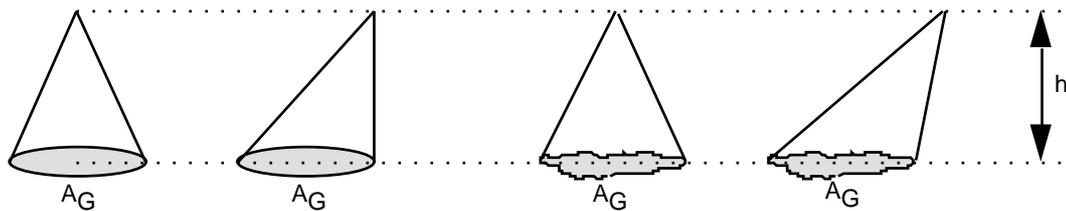
$$V = A_G \cdot h$$

Pyramide, Kegel

Pyramide

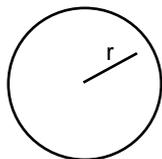


Kegel



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

Kugel



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

$$\text{Oberfläche } O = 4 \cdot r^2$$