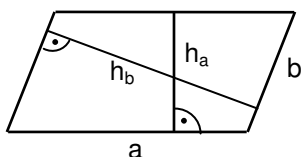


Zugelassene Formelsammlung für die Abschlussprüfung Realschule 2008/2009

Flächenberechnung

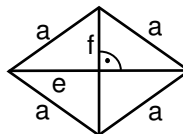
Parallelogramm



$$A = a \cdot h_a = b \cdot h_b$$

$$u = 2a + 2b$$

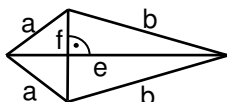
Raute



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

$$u = 4a$$

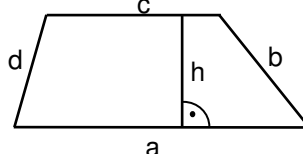
Drachen



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

$$u = 2a + 2b$$

Trapez



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

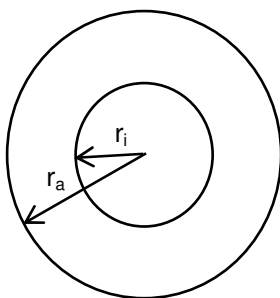
$$u = a + b + c + d$$

Kreis

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

$$u = 2\pi \cdot r$$

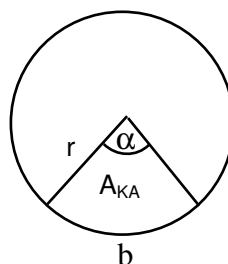
Kreisring



$$A_{KR} = \pi \cdot r_a^2 - \pi \cdot r_i^2$$

$$u_{KR} = 2\pi \cdot r_a + 2\pi \cdot r_i$$

Kreisausschnitt



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

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

Körperberechnung

Prismen und Zylinder

$$V = G \cdot h_K$$

$$M = u \cdot h_K$$

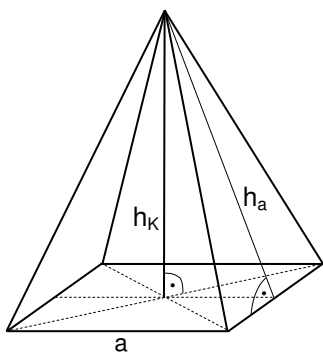
$$O = 2G + M$$

Spitze Körper

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

$$O = G + M$$

Quadratische Pyramide

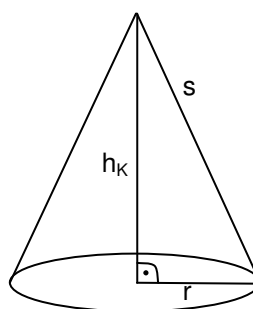


$$V = \frac{1}{3} a^2 \cdot h_K$$

$$M = 2a \cdot h_a$$

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

Kegel



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

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

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

Kugel

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

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

Quadratische Gleichungen

Normalform:

$$x^2 + px + q = 0$$

p-q-Formel:

$$x_{1,2} = -\frac{p}{2} \pm \sqrt{\left(\frac{p}{2}\right)^2 - q}$$

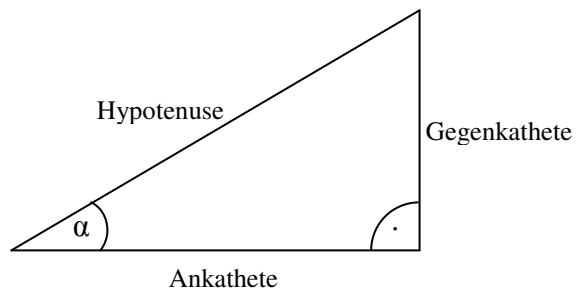
Trigonometrie

Im rechtwinkligen Dreieck gilt:

$$\sin \alpha = \frac{\text{Gegenkathete}}{\text{Hypotenuse}}$$

$$\cos \alpha = \frac{\text{Ankathete}}{\text{Hypotenuse}}$$

$$\tan \alpha = \frac{\text{Gegenkathete}}{\text{Ankathete}}$$



Im allgemeinen Dreieck gilt:

Kosinussatz:

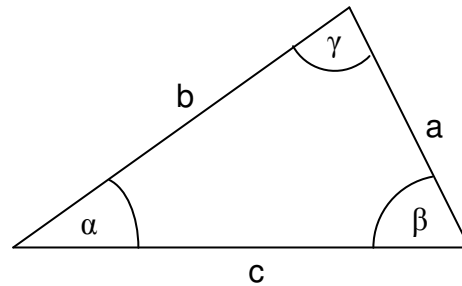
$$a^2 = b^2 + c^2 - 2bc \cdot \cos \alpha$$

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

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

Sinussatz:

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



Exponentielle Zusammenhänge

Wachstum und Zerfall

$$G_n = G_0 \cdot \left(1 \pm \frac{p}{100}\right)^n$$

$$G_n = G_0 \cdot q^n$$

Zinseszins

$$K_n = K_0 \cdot \left(1 + \frac{p}{100}\right)^n$$

$$K_n = K_0 \cdot q^n$$