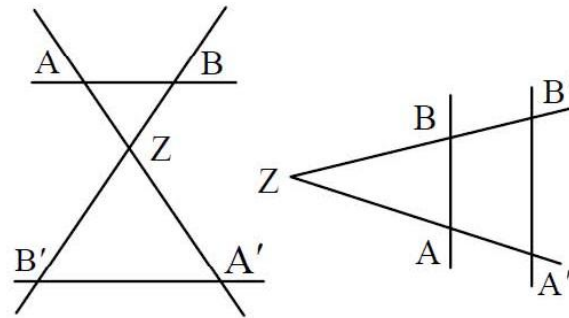




### Strahlensätze

$$AB \parallel A'B' \Leftrightarrow \frac{\overline{ZA}}{\overline{ZA'}} = \frac{\overline{ZB}}{\overline{ZB'}}; \frac{\overline{ZA}}{\overline{AA'}} = \frac{\overline{ZB}}{\overline{BB'}}$$

$$AB \parallel A'B' \Rightarrow \frac{\overline{AB}}{\overline{A'B'}} = \frac{\overline{ZA}}{\overline{ZA'}}$$



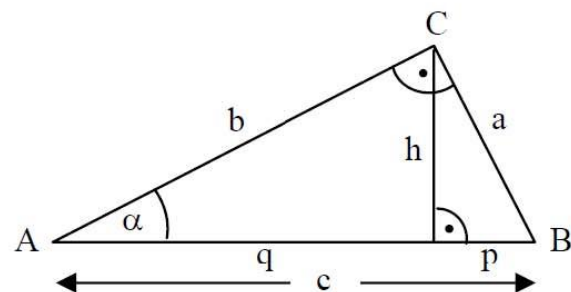
### Rechtwinkliges Dreieck

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

Höhensatz:  $h^2 = pq$

Kathetensatz:  $a^2 = cp$ ;  $b^2 = cq$

$$\sin \alpha = \frac{a}{c}; \quad \cos \alpha = \frac{b}{c}; \quad \tan \alpha = \frac{\sin \alpha}{\cos \alpha} = \frac{a}{b}$$



### Allgemeines Dreieck

Sinussatz:  $a : b : c = \sin \alpha : \sin \beta : \sin \gamma$

Kosinussatz:

$$a^2 = b^2 + c^2 - 2bc \cos \alpha; \quad b^2 = a^2 + c^2 - 2ac \cos \beta; \quad c^2 = a^2 + b^2 - 2ab \cos \gamma$$

### Kreis

Umfang:  $U = 2\pi r$

Flächeninhalt:  $A = \pi r^2$

Kreis Sektor:  $A_{\text{Sektor}} = \frac{\alpha}{360^\circ} \pi r^2$

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

Kreisring:  $A_{\text{Ring}} = \pi(R^2 - r^2)$

