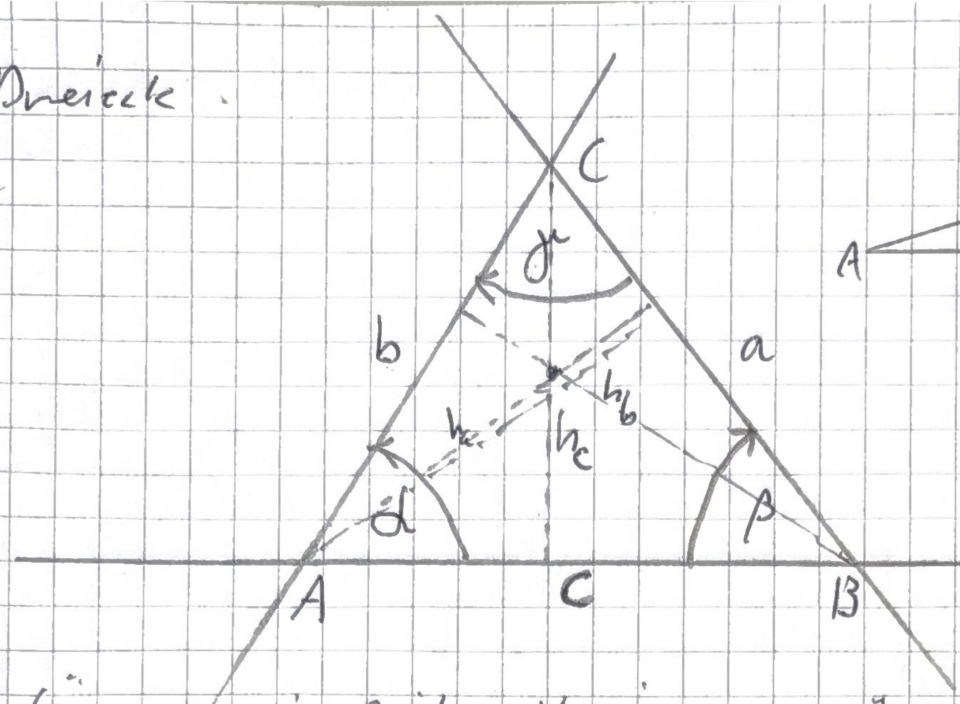
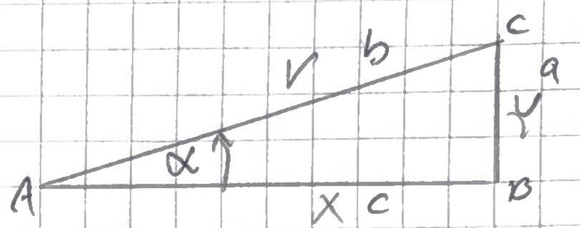
Das Dreieck





Die Länge zweier Seiten ist immer größer als die dritte Seite

$a+b > c \quad c+a > b \quad b+c > a$

$\alpha + \beta + \gamma = 180°$

Beweis durch Parallele durch C

$h = \frac{2 \cdot A}{g} \qquad A = \frac{a \cdot h_c}{2} = \frac{b \cdot h_c}{2} = \frac{c \cdot h_c}{2}$

$\frac{c}{b} = \frac{h_b}{h_c} \qquad \frac{b}{a} = \frac{h_a}{h_c} \qquad \frac{c}{a} = \frac{h_a}{h_c}$

$\sin(\alpha) = \frac{a}{b} \qquad \cos(\alpha) = \frac{c}{b} \qquad \tan(\alpha) = \frac{a}{c}$

$c = b \cdot \cos(\alpha) = \frac{a}{\tan(\alpha)}$

$a = b \cdot \sin(\alpha) = c \cdot \tan(\alpha)$

$b = \frac{a}{\sin(\alpha)} = \frac{x}{\cos(\alpha)}$

$\sin^{-1}\left(\frac{a}{b}\right) = \alpha \qquad \cos^{-1}\left(\frac{c}{b}\right) = \alpha \qquad \tan^{-1}\left(\frac{a}{c}\right) = \alpha$

Beliebiges Dreieck

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