

BBI WIEN

Vektoren in \mathbb{R}^2 - Grundlagen

Einige Schwarzdruckkopiervorschläge mit
großer Schrift und starken Linien

Elisabeth Stanetty

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Inhalt: verschiedene Vektoren, parallele Vektoren, Normalvektoren, Vektoraddition, Vektorsubtraktion, Vektoren in diversen Vierecken, Multiplikation einer Vektors mit einer Zahl, Skalarprodukt

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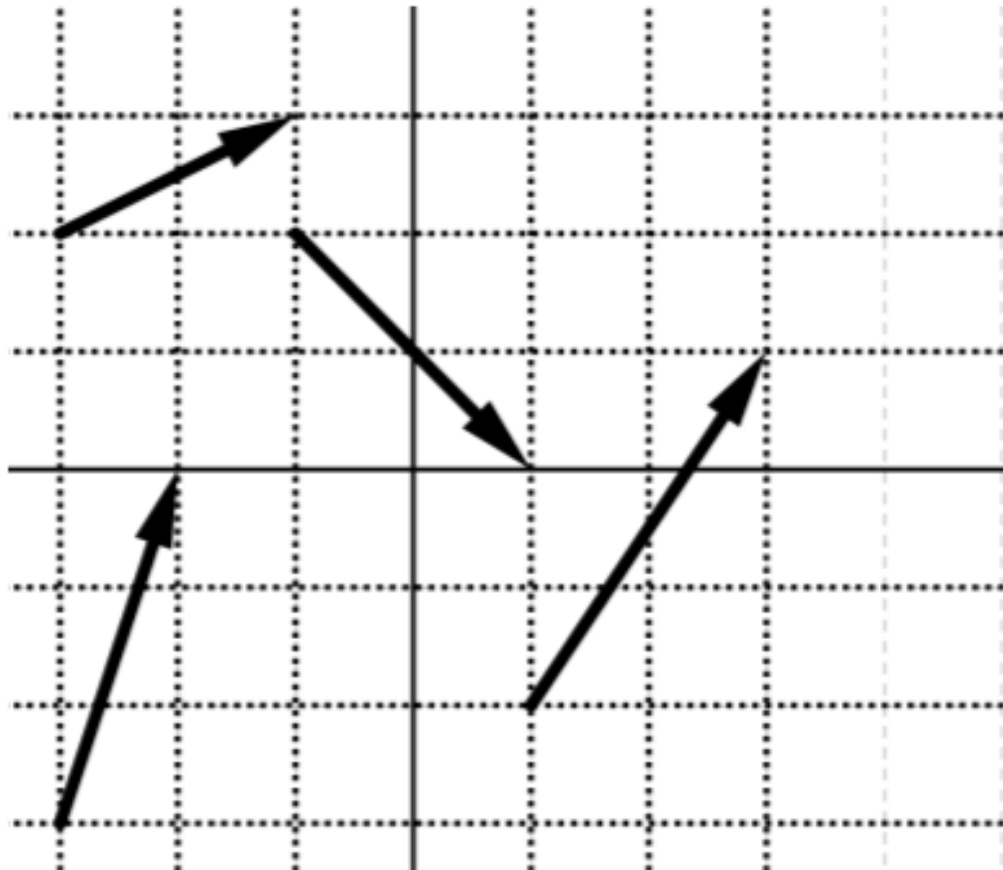
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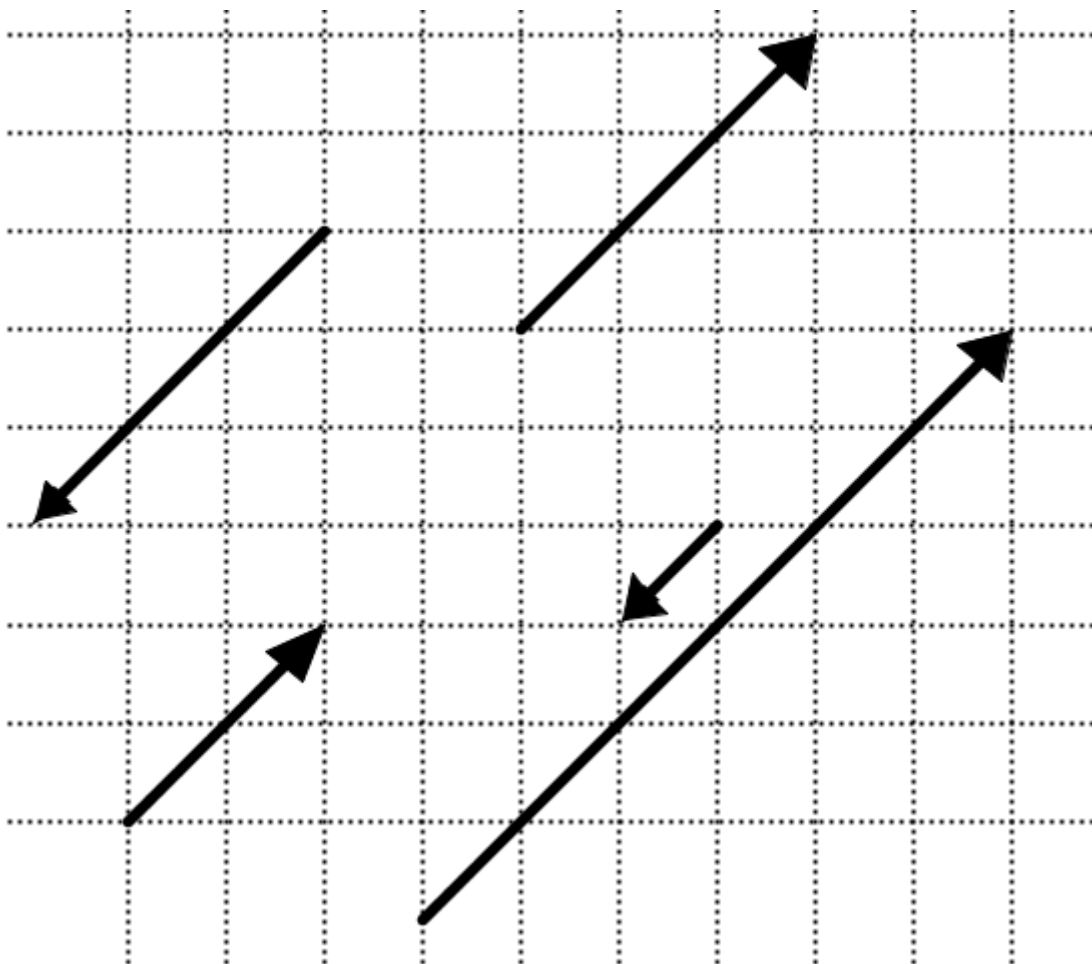
Verschiedene Vektoren



Parallele Vektoren: \longrightarrow

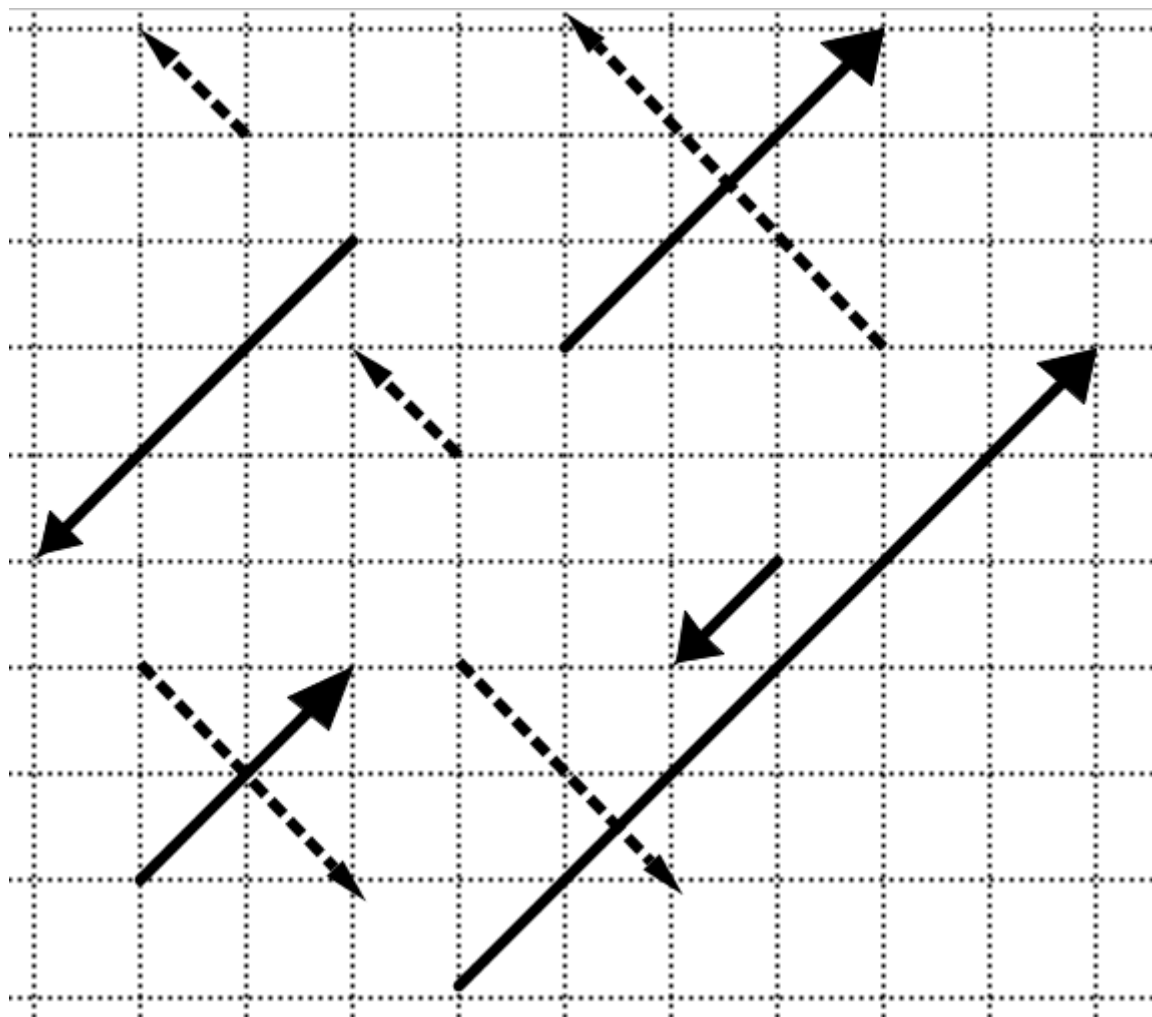
gleich- oder

entgegengesetzt gerichtet



Vektoren: \longrightarrow

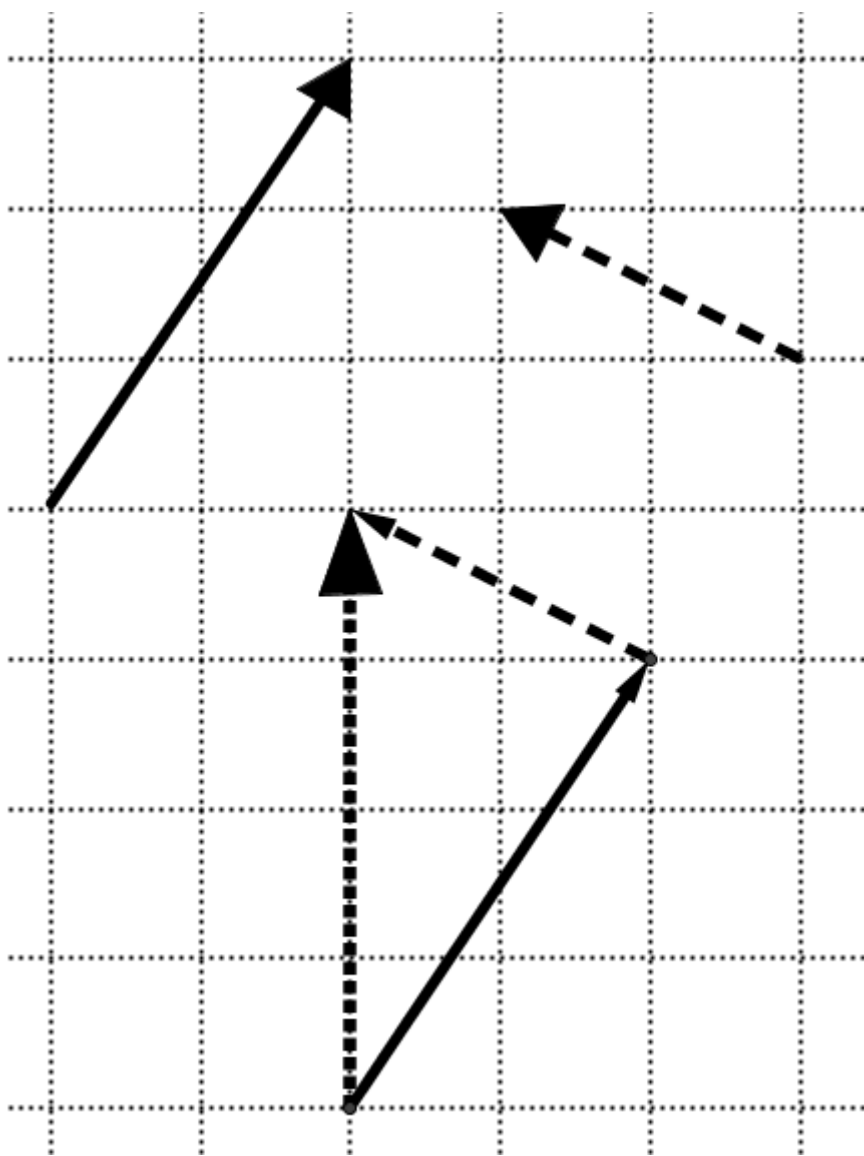
Normalvektoren dazu: $-\ - \longrightarrow$



Vektoraddition

'va: \longrightarrow || 'vb: $- - - \blacktriangleright$

'va + 'vb = 'vc: $\cdots \blacktriangleright$

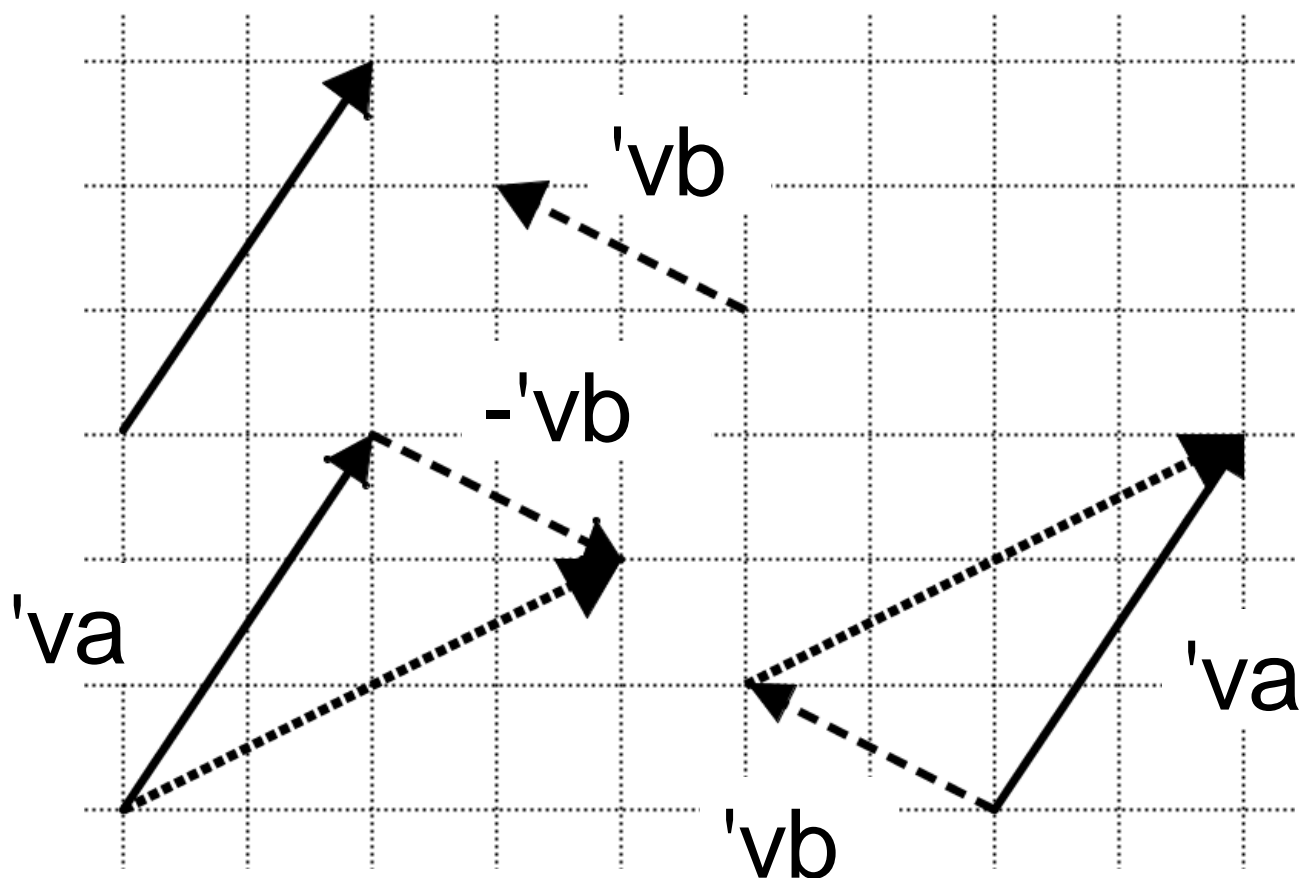


Vektorsubtraktion

'va: \longrightarrow || 'vb: $- - - \blacktriangleright$

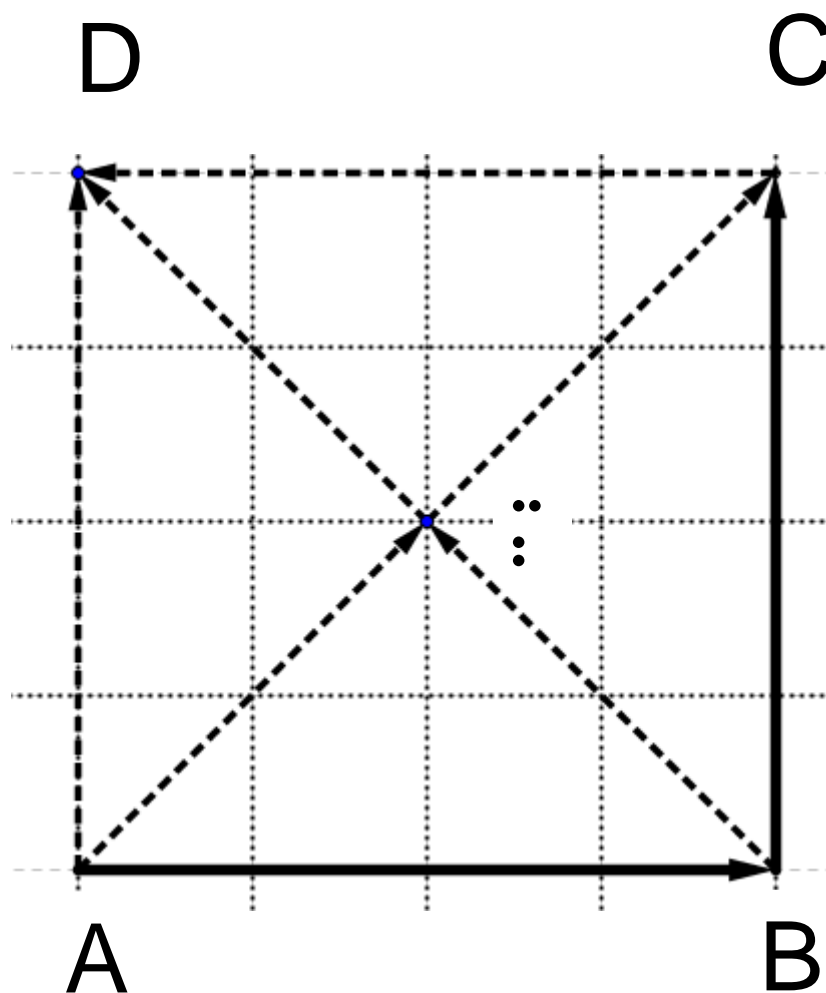
'vc: $\cdots\cdots\cdots\blacktriangleright$

$$'vc = 'va + (-'vb) = 'va - 'vb$$



Quadrat: Geg. A, B, C

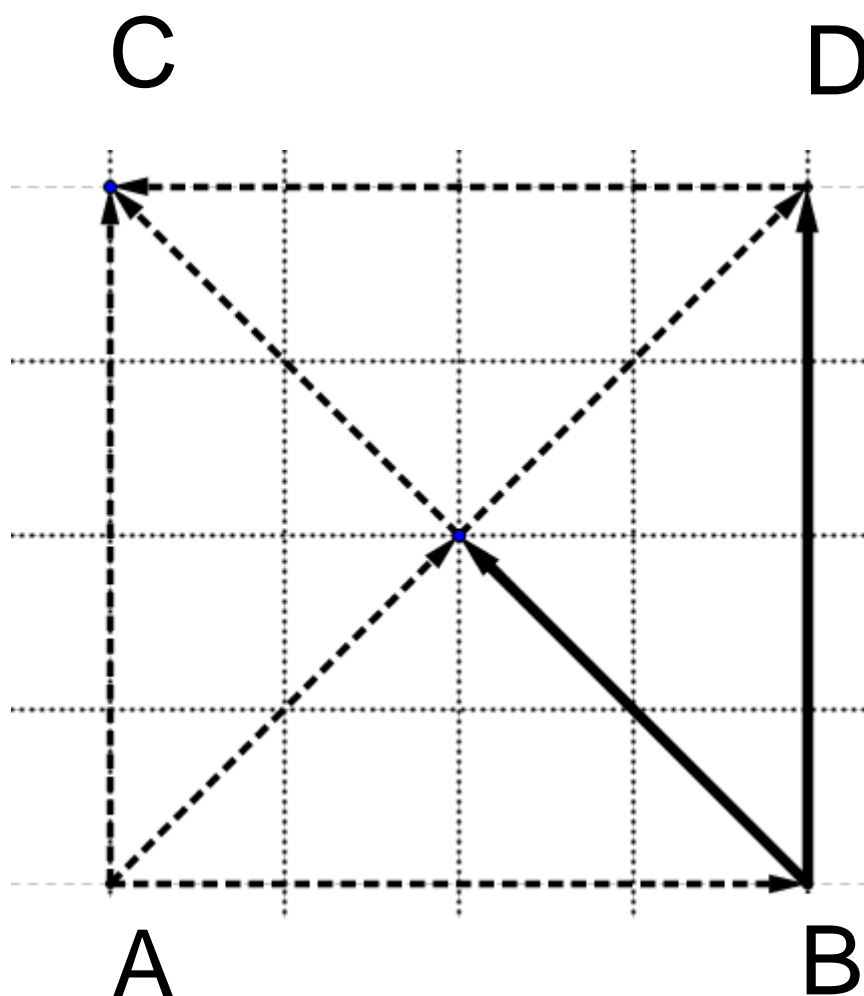
Ges: D, M



Quadrat:

Geg. B, M, \vec{v}_{BC} ,

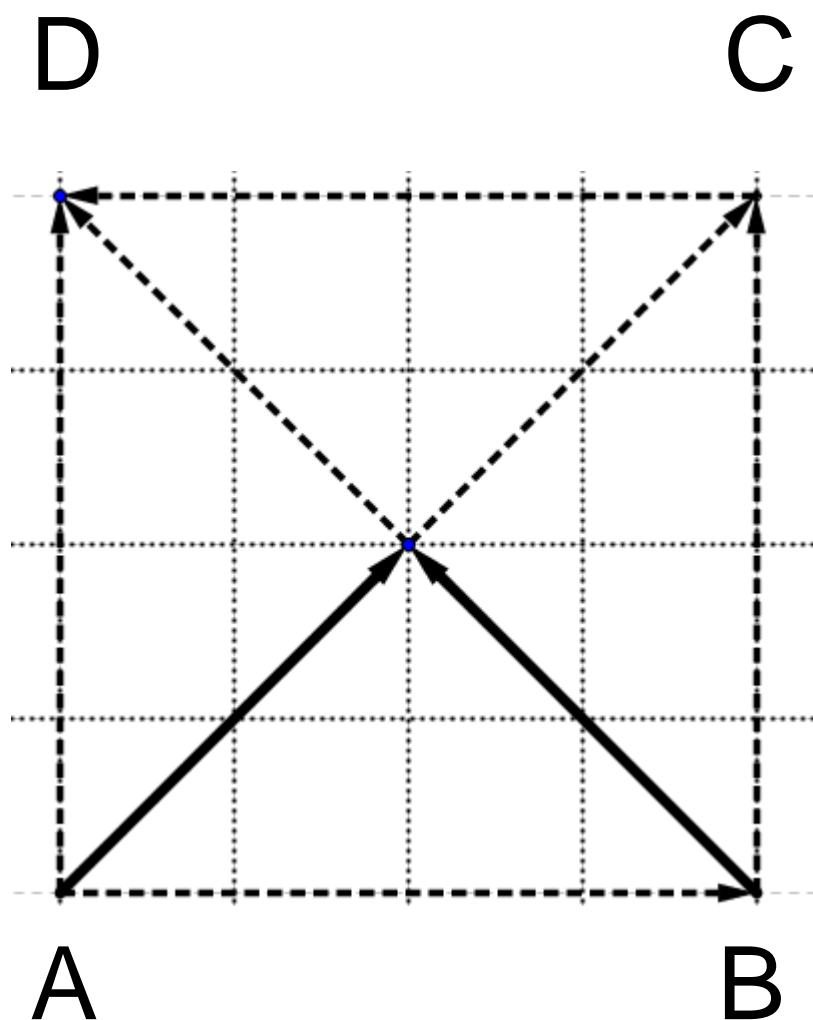
Ges: A, D



Quadrat:

Geg. A , \vec{v}_{AM} , \vec{v}_{BM}

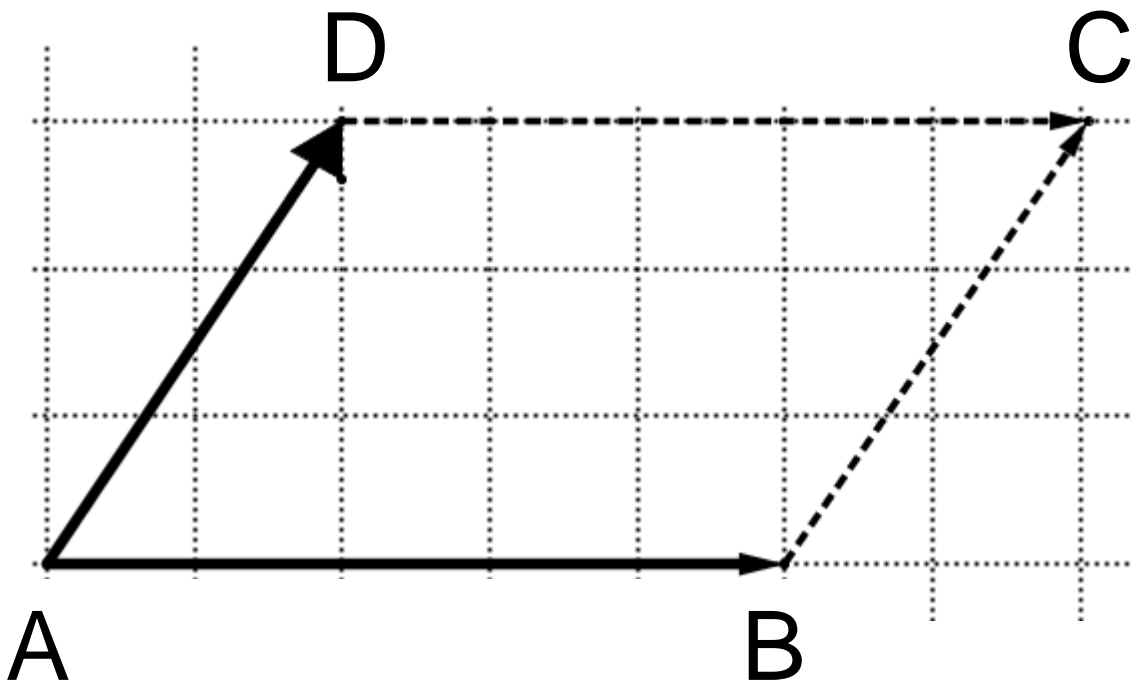
Ges: C , D



Parallelogramm

Geg. A , \vec{v}_{AB} , \vec{v}_{AD}

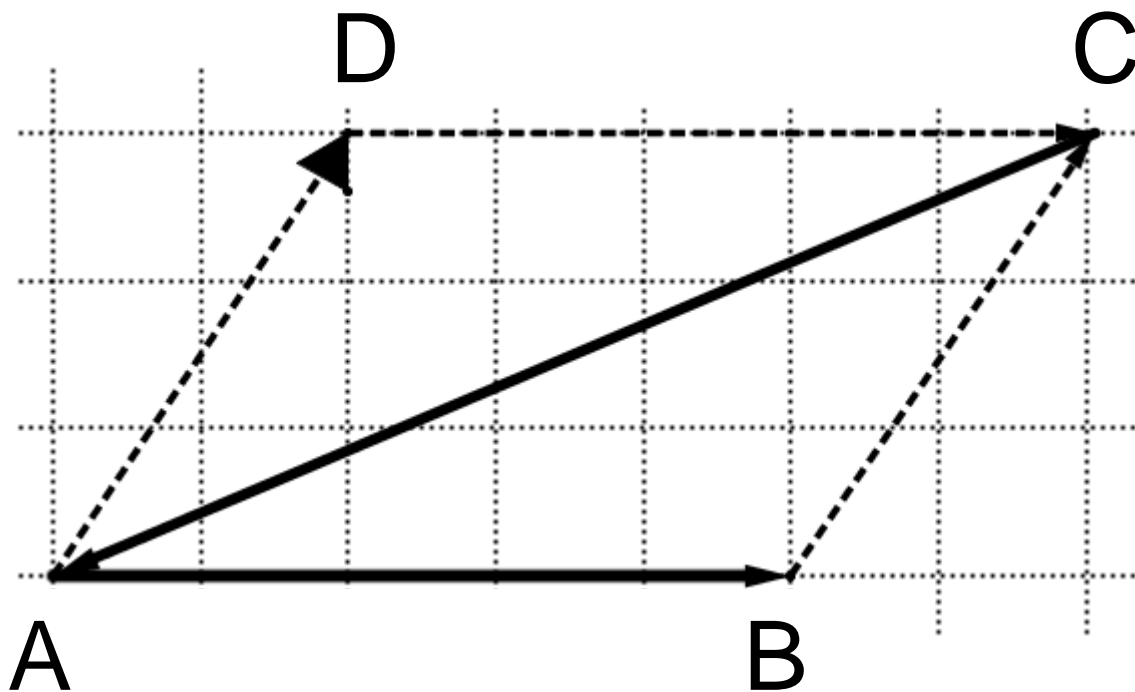
Ges. B , C , D



Parallelogramm

Geg. A , \vec{v}_{AB} , \vec{v}_{CA}

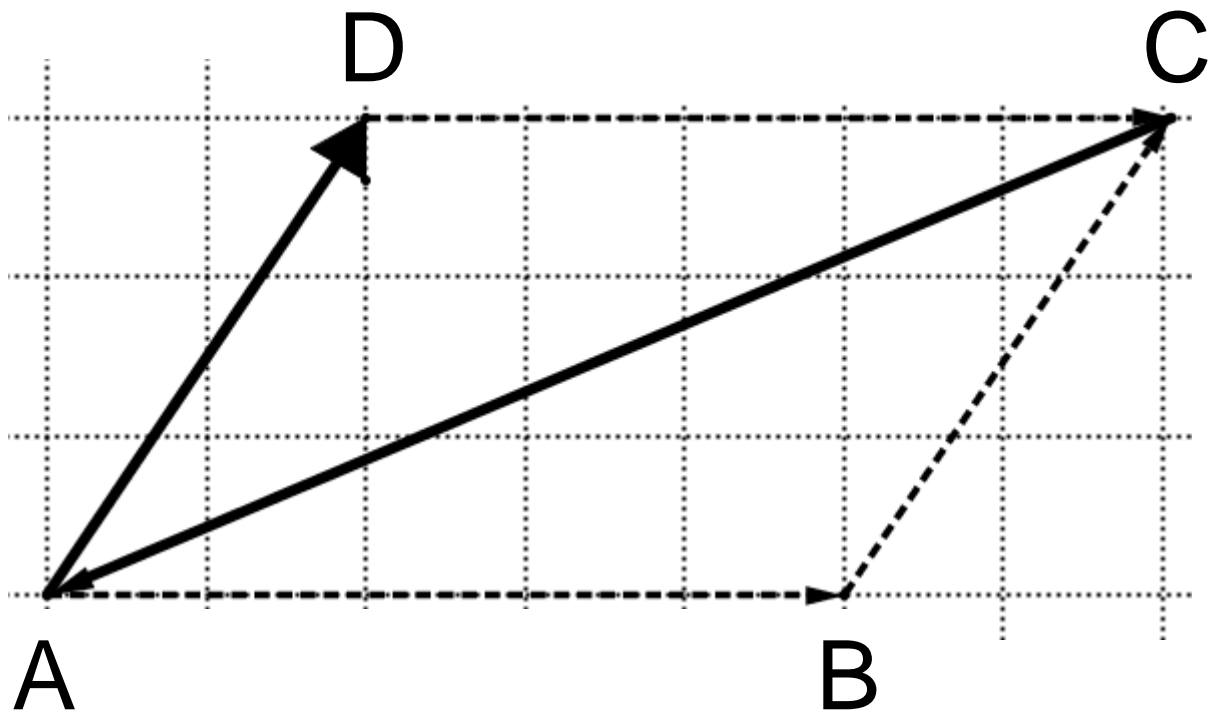
Ges. B , C , D



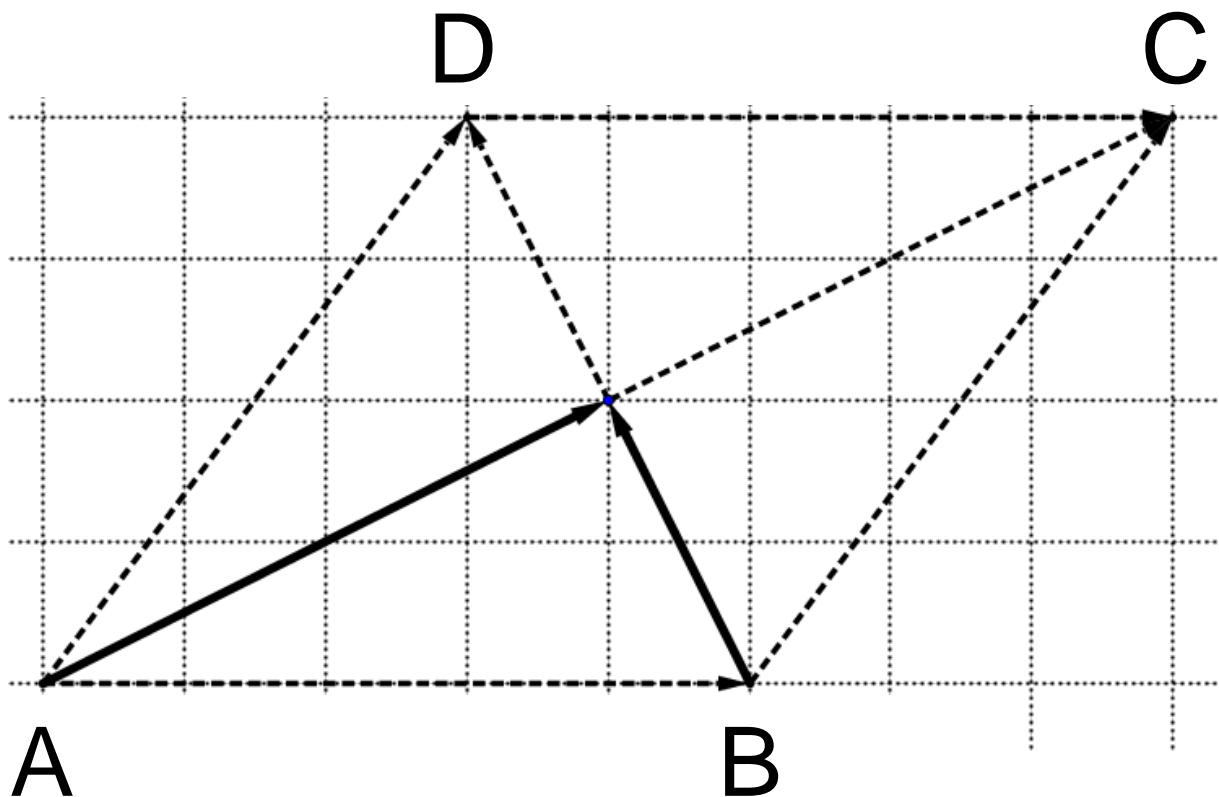
Parallelogramm

Geg. A , \vec{v}_{AB} , \vec{v}_{CA}

Ges. B , C , D



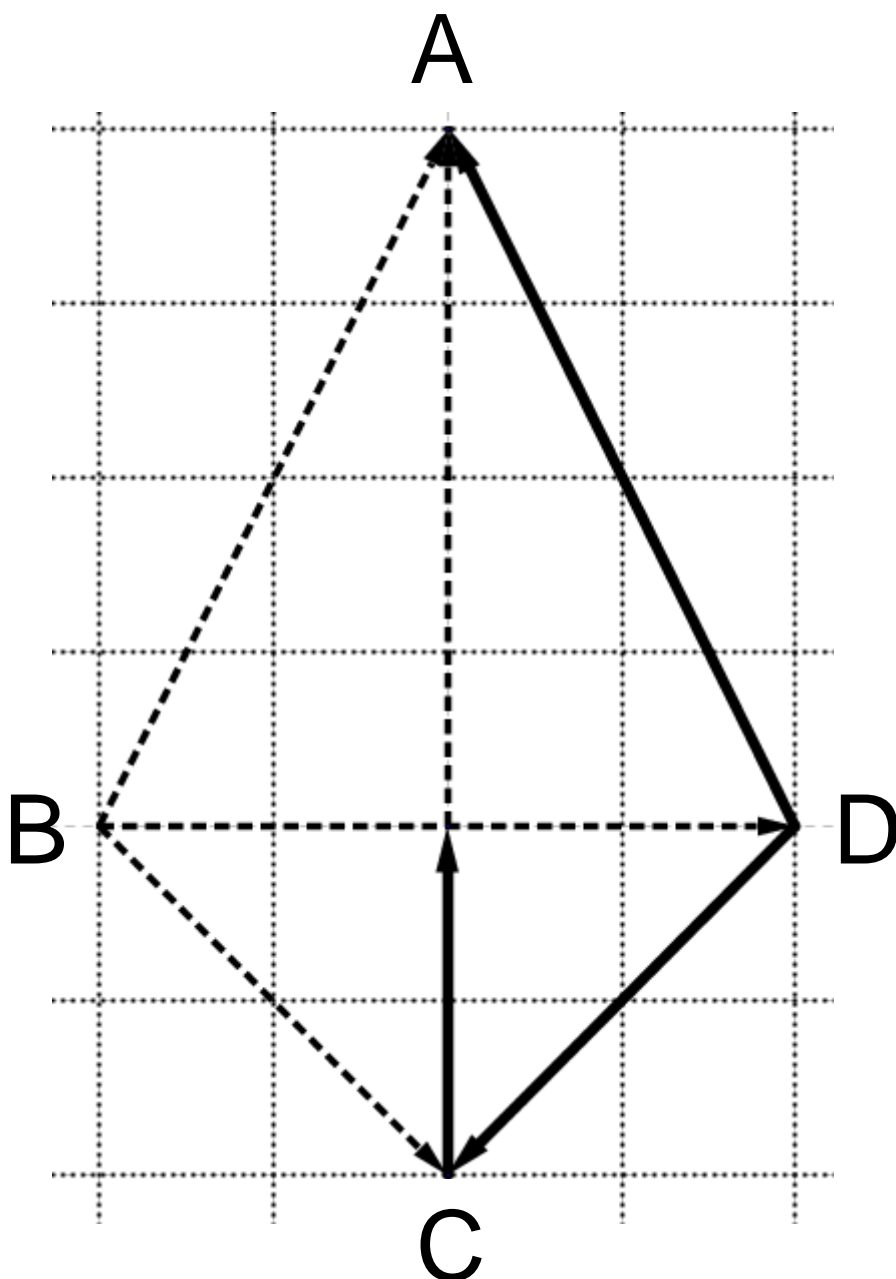
Rhombus (Raute)

Geg. A , \vec{v}_{AM} , \vec{v}_{BM} Ges. B , C , D 

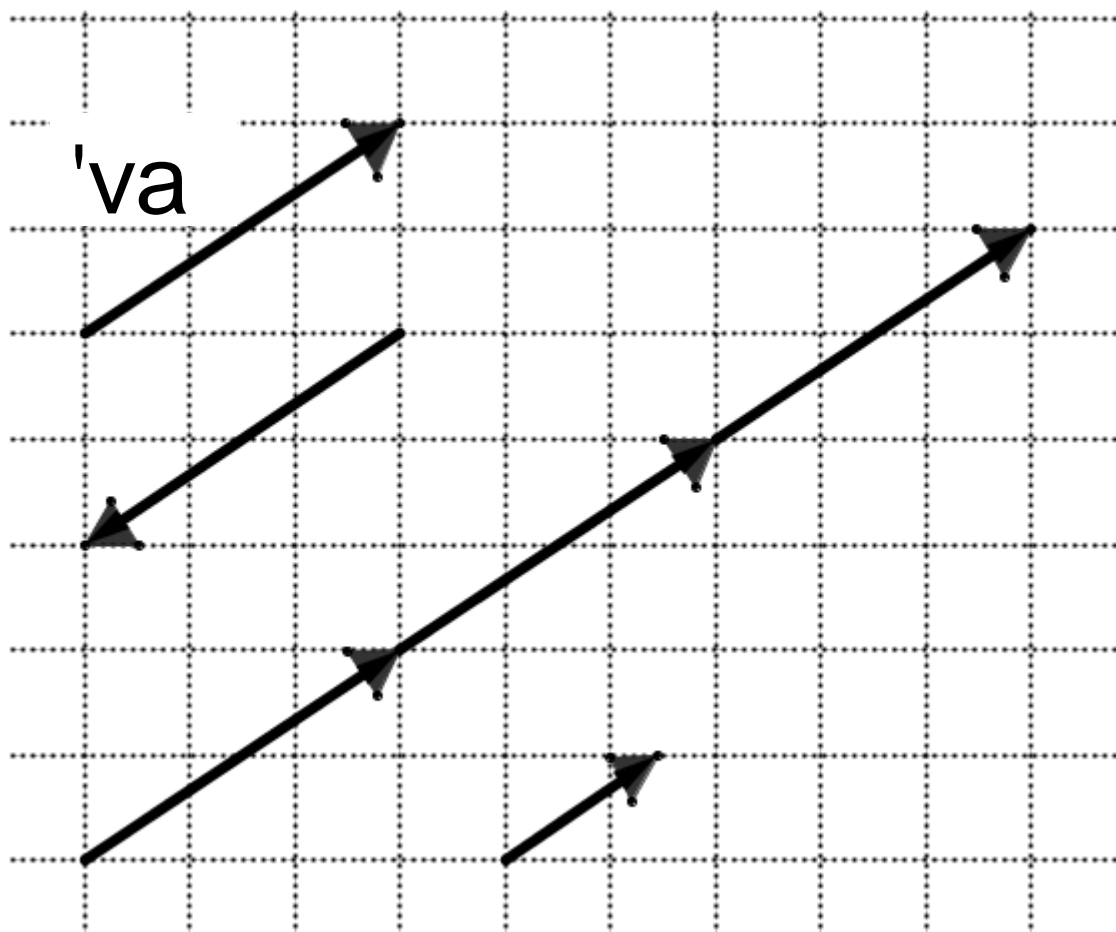
Deltoid

Geg. A, C, D, M_f

Ges. B



Mult. mit einem Skalar

 \vec{v}_a ; $-\vec{v}_a$; $3 \cdot \vec{v}_a$; $\frac{1}{2} \cdot \vec{v}_a$ 

Skalarprodukt

$\vec{v}_a \cdot \vec{v}_b = \text{Länge des Vektors } \vec{v}_a \text{ mal Länge der Normalprojektion des Vektors } \vec{v}_b \text{ auf } \vec{v}_a$

