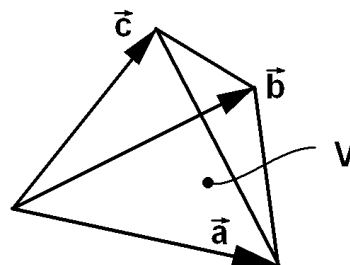


Übungen in AlgGeo  $\diamond$  Exercices en AlgGéo  $\diamond$  T. E1  $\diamond$  I / 13

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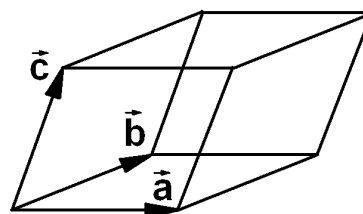
**Probl. 1**  $\vec{a} = \begin{pmatrix} 3 \\ -1 \\ 5 \end{pmatrix}$ ,  $\vec{b} = \begin{pmatrix} 2 \\ 3 \\ 6 \end{pmatrix}$ ,  $\vec{c} = \begin{pmatrix} -5 \\ -6 \\ 4 \end{pmatrix}$

$V = ?$



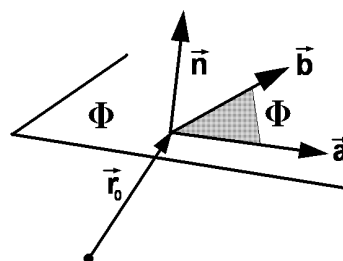
**Probl. 2**  $\vec{a} = \begin{pmatrix} 3 \\ -1 \\ 5 \end{pmatrix}$ ,  $\vec{b} = \begin{pmatrix} 2 \\ 3 \\ 6 \end{pmatrix}$ ,  $\vec{c} = \begin{pmatrix} -5 \\ -6 \\ z \end{pmatrix}$

$V(z) = 50$ ,  $z = ?$



**Probl. 3**  $\vec{r}_0 = \begin{pmatrix} 5 \\ 1 \\ 3 \end{pmatrix}$ ,  $\vec{a} = \begin{pmatrix} 3 \\ -1 \\ 5 \end{pmatrix}$ ,  $\vec{b} = \begin{pmatrix} 2 \\ 3 \\ 6 \end{pmatrix}$

$\vec{n} = \vec{a} \times \vec{b} = ?$   $\vec{e}_n = \frac{\vec{n}}{|\vec{n}|} = ?$



**Probl. 4**  $\Phi : H(\vec{r}) = Ax + By + Cz + D = 0$   
 $\leadsto D = ?$

$S_g = g \cap \Phi$ ,  $P_0 = P_0(5, 1, 6)$ ,  $\vec{c} = \begin{pmatrix} 3 \\ 4 \\ 5 \end{pmatrix}$

$g : \vec{r} = \vec{r}_0 + t \cdot \vec{c}$ ,  $\vec{r}_0 = \overrightarrow{OP_0}$

$A = ?$  ( $\Delta S_g S_h P_0$ )

