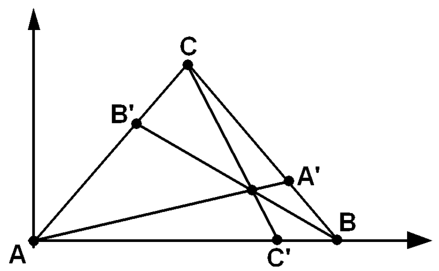
Test in AlgGeo ◇ Examen en AlgGéo ◇ Type B1 ◇ I / 2

Probl. 1

$$\begin{aligned}\vec{a} &= \vec{e}_1 + \vec{e}_2 + \vec{e}_3 \\ \vec{b} &= \vec{e}_1 - \vec{e}_2 \\ \vec{c} &= \vec{e}_1 + 2\,\vec{e}_2 + 4\,\vec{e}_3\end{aligned}$$

$\{\vec{a}, \vec{b}, \vec{c}\} \rightsquigarrow$ Basis? • *Base?*
Basiswechsel: • *Changement de base:*
$\vec{e}_1, \vec{e}_2, \vec{e}_3 = \,?$

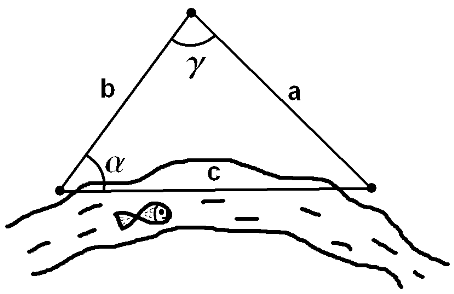
Probl. 2



Gegeben: • *Donné:*
$B = B(8/0),\;\; C = C(5/6),$
$\overrightarrow{AB'} = \dfrac{2}{3}\,\overrightarrow{AC}\;,\quad \overrightarrow{BA'} = \dfrac{2}{5}\,\overrightarrow{BC}$

$\rightsquigarrow\;\; C' = \,?$

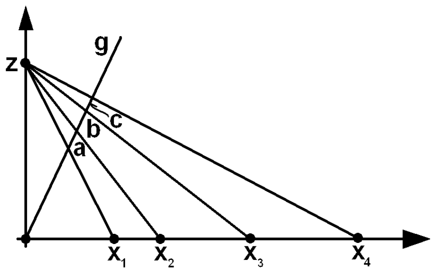
Probl. 3



Gegeben: • *Donné:*
$a = 67.54\,m,\;\; b = 59.18\,m$
$\gamma = 98^o\,12'\,14''$

$\rightsquigarrow\;\; c = ?,\;\; \alpha = ?$

Probl. 4

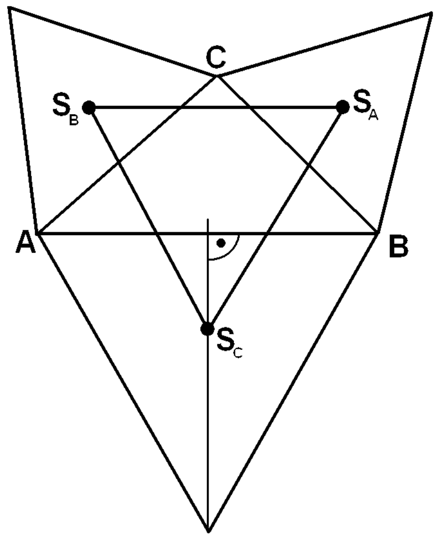


Gegeben: • *Donné:*
$Z = Z(0/12),\;\; a : b = 1$

(a) $c : b = \,?$

(b) Ist es möglich, eine Gerade g so zu legen, dass $a = b = c$ gilt?
• *Est–ce que c'est possible de tracer une droite de façon qu'il vaille $a = b = c$?*

Probl. 5



Gegeben: • *Donné:*
$A = A(1/1),\ \ B = B(10/4)$
$C = C(5/9) \rightsquigarrow\ \ \triangle ABC$

Über $a,\ \ b,\ \ c$ werden die gleichseitigen $\triangle$ errichtet $\rightsquigarrow$ Schwerpunkte $S_A,\ \ S_B,\ \ S_C$.
• *Sur les arêtes* $a,\ \ b,\ \ c$ *on construit les* $\triangle$ *équilatérals* $\rightsquigarrow$ *centres de gravitation* $S_A,\ \ S_B,\ \ S_C$.

(a) Berechne • *Calculer* $S_A,\ \ S_B,\ \ S_C$!

(b) Berechne • *Calculer* $|\overline{S_A S_B}|,\ \ |\overline{S_B S_C}|,\ \ |\overline{S_C S_A}|$!