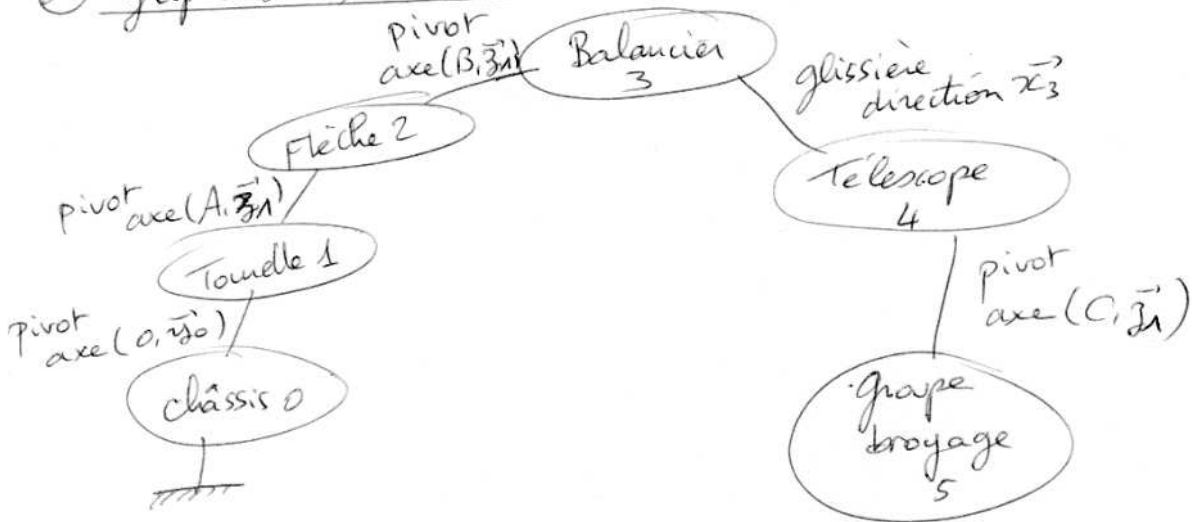


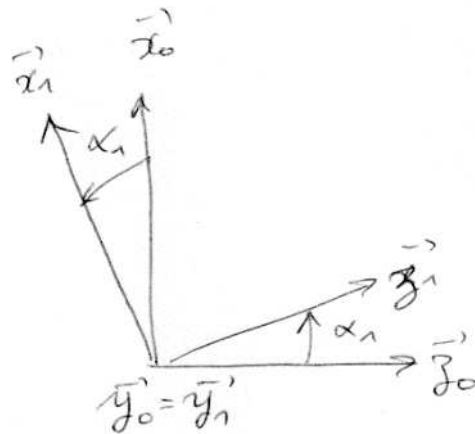
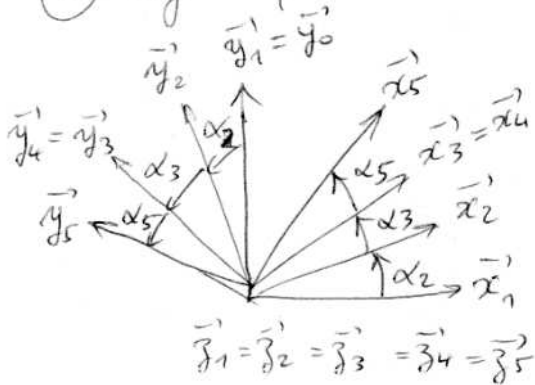
12h00

① graphe de structure



- ②
- $R_0 = (O, \vec{x}_0, \vec{y}_0, \vec{z}_0)$
  - $R_1 = (A, \vec{x}_1, \vec{y}_1, \vec{z}_1)$
  - $R_2 = (A, \vec{x}_2, \vec{y}_2, \vec{z}_2)$
  - $R_3 = (B, \vec{x}_3, \vec{y}_3, \vec{z}_3)$
  - $R_4 = (B, \vec{x}_4, \vec{y}_4, \vec{z}_4)$
  - $R_5 = (C, \vec{x}_5, \vec{y}_5, \vec{z}_5)$

③ Figures planes



12h08

12h08 (4)  $\vec{BC} = \lambda \vec{x}_3$

$$\vec{BC} = \lambda (\cos \alpha_3 \vec{x}_2 + \sin \alpha_3 \vec{y}_2)$$

(5)  $\vec{\alpha}_{5/1} = \vec{\alpha}_{5/4} + \vec{\alpha}_{4/3} + \vec{\alpha}_{3/2} + \vec{\alpha}_{2/1}$

$$\vec{\alpha}_{5/1} = \alpha_5 \vec{z}_1 + \vec{0} + \alpha_3 \cdot \vec{z}_1 + \alpha_2 \vec{z}_1$$

(6) Cas 1 :  $\alpha_2 = 90^\circ$   $\alpha_3 = 180^\circ$   $\alpha_5 = -270^\circ \equiv 90^\circ$

$$\vec{\alpha}_{5/1} = \vec{0} \Rightarrow \alpha_5 = -\alpha_3 - \alpha_2$$

Cas 2 :  $\alpha_2 = 0^\circ$   $\alpha_3 = 0^\circ$   $\alpha_5 = 0^\circ$

12h15 (7)  $\vec{AC} = \vec{AB} + \vec{BC}$  (Chasles)

$$\vec{AC} = L_2 \cos \alpha_2 \vec{x}_1 + L_2 \sin \alpha_2 \vec{y}_1 + \lambda (\cos \alpha_3 \vec{x}_2 + \sin \alpha_3 \vec{y}_2)$$

$$\text{avec } \vec{x}_2 = \cos \alpha_2 \vec{x}_1 + \sin \alpha_2 \vec{y}_1$$

$$\vec{y}_2 = \cos \alpha_2 \vec{y}_1 - \sin \alpha_2 \vec{x}_1$$

$$\text{d'où } \vec{AC} = \begin{bmatrix} (L_2 + \lambda \cos \alpha_3) \cos \alpha_2 \\ -\lambda \sin \alpha_3 \sin \alpha_2 \end{bmatrix} \vec{x}_1 + \begin{bmatrix} (L_2 + \lambda \sin \alpha_3) \sin \alpha_2 \\ + \lambda \cos \alpha_3 \sin \alpha_2 \end{bmatrix} \vec{y}_1$$

Cas 1 :  $\alpha_2 = 90^\circ$   $\alpha_3 = 180^\circ$

$$\vec{AC} = \begin{pmatrix} (L_2 + \lambda(-1) \cdot 0) \\ -\lambda \cdot 0 \cdot 0 \end{pmatrix} \vec{x}_1 + \begin{pmatrix} (L_2 + \lambda \cdot 0) \cdot 1 \\ + \lambda(-1) \cdot 1 \end{pmatrix} \vec{y}_1$$

$$\vec{AC} = (L_2 - \lambda) \vec{y}_1 = \vec{0} \text{ car } L_2 = \lambda$$

Cas 2 :  $\alpha_2 = 0$   $\alpha_3 = 0$

$$\vec{AC} = \begin{pmatrix} (L_2 + \lambda \cdot 1) \cdot 1 \\ -\lambda \cdot 0 \end{pmatrix} \vec{x}_1 + \begin{pmatrix} (L_2 + \lambda \cdot 0) \cdot 0 \\ + \lambda \cdot 1 \cdot 0 \end{pmatrix} \vec{y}_1$$

12h25

$$\vec{AC} = (L_2 + \lambda) \vec{x}_1 = (2 + 4) \vec{x}_1$$

(8)  $AC_{\text{sortie}} - AC_{\text{entrée}} = 6 - 0 = 6 \text{ m} < 6,2 \text{ m}$   
5,8 m

donc le cahier des charges est respecté.