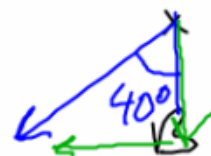




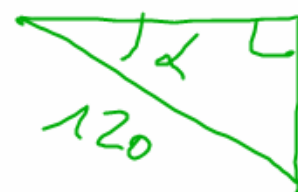
$$\|\vec{A}\| = 60$$

$$\vec{A} = \begin{pmatrix} -60 \cos 25 \\ 60 \sin 25 \\ 0 \end{pmatrix}$$



$$\|\vec{B}\| = 80$$

$$\vec{B} = \begin{pmatrix} -80 \sin 40 \\ -80 \cos 40 \\ 0 \end{pmatrix}$$



$$40 = 120 \cdot \sin \alpha$$



$$\|\vec{C}\| = 120$$

$$\alpha = \sin^{-1}\left(\frac{40}{120}\right) \approx 19,5^\circ$$

$$\vec{C} = \begin{pmatrix} 120 \cdot \cos 19,5 \\ -40 \\ 0 \end{pmatrix} = \begin{pmatrix} 113 \\ -40 \\ 0 \end{pmatrix}$$

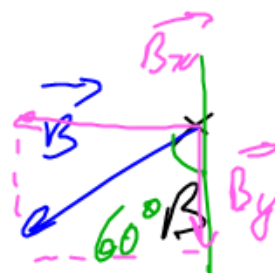
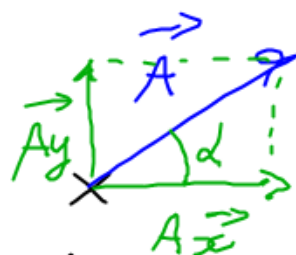
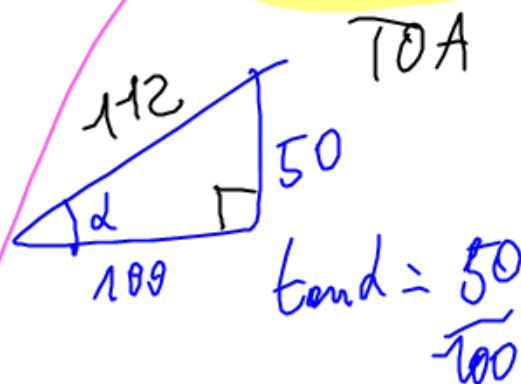


$$\vec{A} = \vec{A}_x + \vec{A}_y \quad \vec{A}_x = \begin{pmatrix} 100 \\ 0 \\ 0 \end{pmatrix} \quad \vec{A}_y = \begin{pmatrix} 0 \\ 50 \\ 0 \end{pmatrix}$$

$$\vec{A} = \begin{pmatrix} 100 \\ 50 \\ 0 \end{pmatrix}$$

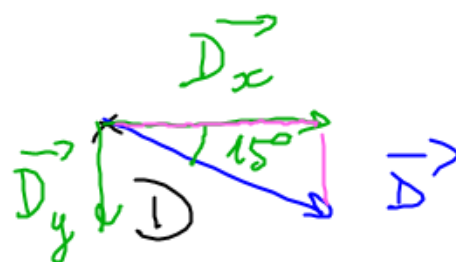
$$\|\vec{A}\| = \sqrt{100^2 + 50^2} \approx 112$$

$$d = \tan^{-1}\left(\frac{50}{100}\right) \approx 26,6^\circ$$



$$\|\vec{B}\| = 120$$

$$\vec{B} = \begin{pmatrix} -120 \sin 60 \\ -120 \cos 60 \\ 0 \end{pmatrix}$$



$$\|\vec{D}\| = 1000$$

$$\vec{D} = \begin{pmatrix} 1000 \cos 15 \\ -1000 \sin 15 \\ 0 \end{pmatrix}$$

$$\vec{D}_x = \begin{pmatrix} 1000 \cos 15 \\ 0 \\ 0 \end{pmatrix}$$

$$\vec{D}_y = \begin{pmatrix} 0 \\ -1000 \sin 15 \\ 0 \end{pmatrix}$$

$$30 = h \cdot \sin 30$$

$$h = \frac{30}{\sin 30}$$



$$\vec{C} = \begin{pmatrix} -60 \cos 30 \\ 30 \\ 0 \end{pmatrix}$$

$$\tan 30 = \frac{30}{a}$$

$$a = \frac{30}{\tan 30}$$

$$\|\vec{C}\| = 60$$

$T_{A \in S_1/S_2}$

Cercle

Mvt S_1/S_2 :
(dans le plan)
2D

→ Rotati

→ Translati : - rectiligne

→ droite

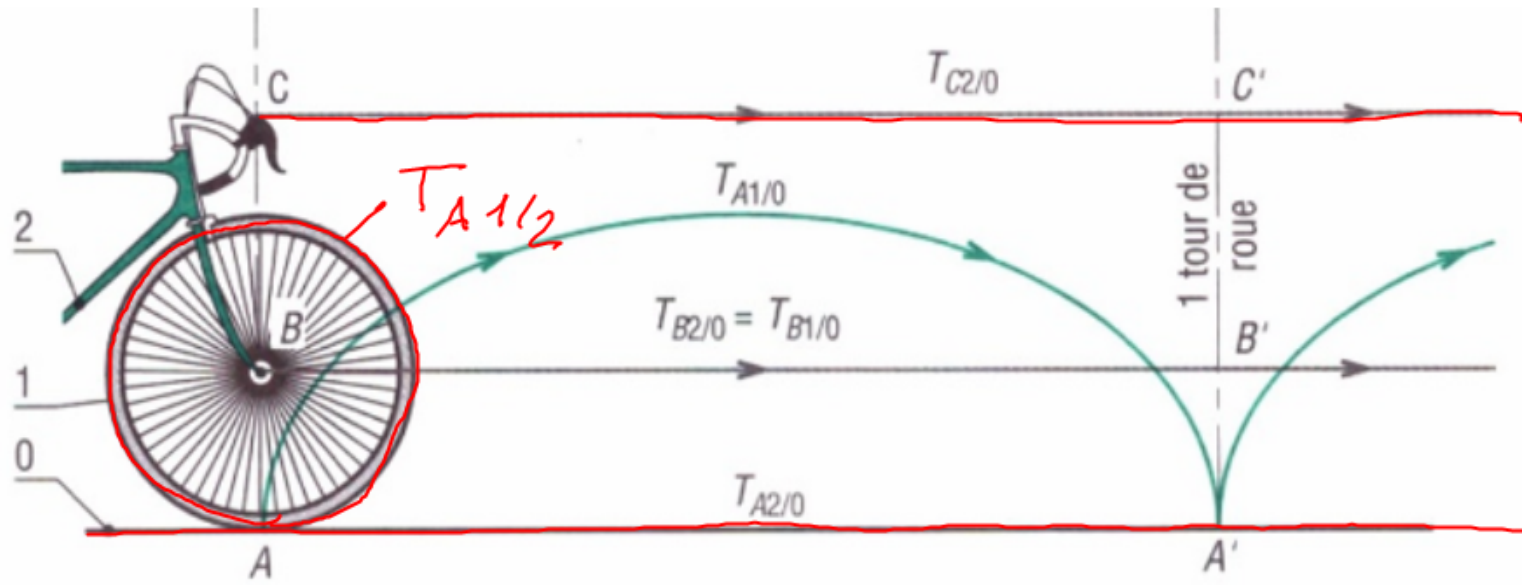
tous les
points
ont
m traj

- circulaire

→ cercle

- curviligne

→ qcd ou courbe



$T_{A1/2} \rightarrow$ Mvt 1/2 rot

$$T_{A1/0} = T_{A1/2} + T_{A2/0}$$

Mvt 1/0: rotation autour de A $\vec{z}$

Mvt 3/0: translation rectiligne suivant l'axe C $\vec{x}$

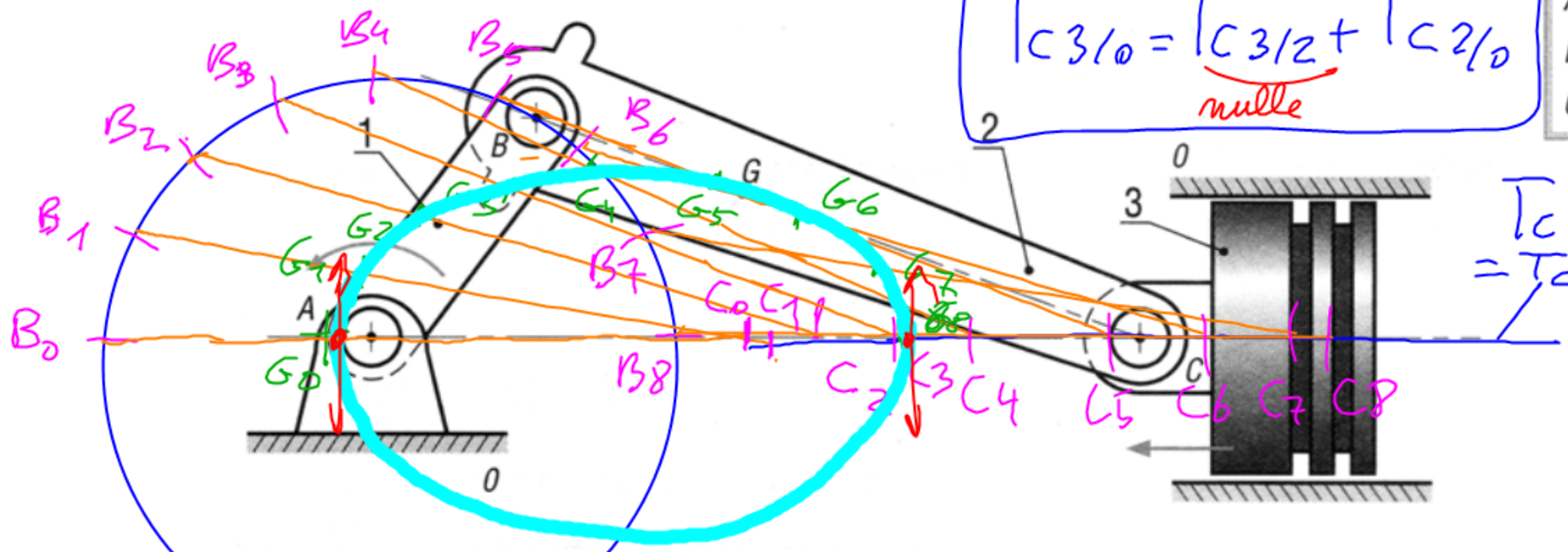
Mvt 2/0: quelconque dans le plan $\vec{x} \otimes \vec{y}$



$$T_{C3/0} = T_{C3/2} + T_{C2/0}$$

nulle

AB = 35 m
BC = 128 m
CG = 2 BG



$$T_{B1/0} = T_{B1/2} + T_{B2/0}$$

nulle car
B centre de la liaison pivot

$$T_{C3/0} = T_{C2/0}$$