2 a) $\vec{OA} = r\,\vec{e}_r = r \left|\begin{matrix} \sin\theta_0 \ 1 \\ 0 \\ \cos\theta_0 \ 1 \end{matrix}\right._{B'}$

3 b) $\vec{v} = \dot{r} \left|\begin{matrix} \sin\theta_0 \\ 0 \\ \cos\theta_0 \end{matrix}\right._{B'}$ 1,5 $\quad \vec{a} = \ddot{r} \left|\begin{matrix} \sin\theta_0 \\ 0 \\ \cos\theta_0 \end{matrix}\right.$ 1,5

3 c) Rotation pure $\perp Oz \Rightarrow \begin{cases} \vec{\Omega}(R'/R) = \omega\,\vec{e}_z & 2 \\ \vec{v}(O' \in R'/R) = \vec{0} & 1 \end{cases}$

2 d) NON galiléen 1, car 1 rotation et non transl rectiligne uniforme.

2 e) $\vec{v}_e = \underset{0,5}{\vec{v}_{O'}} + \underset{0,5}{\vec{\Omega} \times \vec{O'M}} = \omega_0 \vec{e}_z \times r\,\vec{e}_r = \underset{0,5}{\omega_0 r \sin\theta_0}\ \underset{0,5}{\vec{e}_y}$

3 f) $\vec{a}_e = \underset{0,5}{\vec{a}_{O'}} + \underset{0,5}{\frac{d\vec{\Omega}}{dt} \times \vec{O'M}} + \underset{0,5}{\vec{\Omega} \times (\vec{\Omega} \times \vec{O'M})} = \underset{0,5}{-}\underset{0,5}{\omega_0^2 r \sin\theta_0}\ \underset{0,5}{\vec{e}_{x'}}$

2 g) $\vec{a}_c = \underset{0,5}{2}\,\underset{0,5}{\vec{\Omega} \times \vec{v}}\ 1 = 2\omega_0 \vec{e}_z \times \dot{r} \left|\begin{matrix} \sin\theta_0 \\ 0 \\ \cos\theta_0 \end{matrix}\right. = \underset{0,5}{2\omega_0 \dot{r} \sin\theta_0}\ \underset{0,5}{\vec{e}_y}\ 1$

3 h) LCA 2
Expression 1

$\vec{a} = \left|\begin{matrix} \ddot{r}\sin\theta_0 - \omega_0^2 r \sin\theta_0 \\ 2\omega_0 \dot{r} \sin\theta_0 \\ \ddot{r}\cos\theta_0 \end{matrix}\right.$