Address the sphere on an inclined plane problem using quasicoordinates. Let

\[
q = \begin{pmatrix}
  x \\
  y \\
  z \\
  \phi \\
  \theta \\
  \psi
\end{pmatrix}, \quad \omega = \begin{pmatrix}
  \dot{x} \\
  \dot{y} \\
  \dot{z} \\
  \omega_x \\
  \omega_y \\
  \omega_z
\end{pmatrix}
\]

Identify \( \alpha \) and \( \beta \), and work through the equations of motion. Do a simulation to establish plausibility for your solution.