A sphere of radius $a$ carries a total charge $Q$ distributed uniformly over its surface. The sphere is rotated about a diameter with constant angular velocity $\omega$. Find the vector potential $\vec{A}$ and the magnetic induction $\vec{B}$ at all points inside and outside the sphere. Give your answer in cylindrical coordinates about the axis of rotation.

In completing this problem I have not received assistance from any other persons and have consulted only Jackson’s “Classical Electrodynamics” and my PHY505 class notes as sources.

Signature:_________________________________________