Group members (2 to 4):

(1) Convert the implicit quadric equation $z^2 - 2xy = 0$ into spherical coordinates. If you can, determine what kind of quadric surface this is.

(2) Convert the equation for the sphere $(x-1)^2+y^2+z^2=1$ into spherical coordinates, and write ρ as a function of ϕ and θ .