Q1 Change the Cartesian integral into an equivalent polar integral. Then evaluate the polar integral
\[
\int_{-1}^{0} \int_{-\sqrt{1-x^2}}^{0} \frac{1}{1 + \sqrt{x^2 + y^2}} \, dy \, dx
\]

Q2 Find the volume, in the first octant, of the solid inside both the hemisphere \( z = \sqrt{16 - x^2 - y^2} \) and the cylinder \( x^2 + y^2 - 4x = 0 \).