1. Use polar coordinates to compute the double integral

Convert into polar coordinates
Int(Int(r^3(sin(theta)cos(theta)), r = 0..1), theta = 0..Pi/2)
Take the integral for r
Int(1/8(sin(2theta))
Take the integral for theta
1/8

2. Evaluate the iterated integral by converting it to polar coordinates

Convert into polar coordinates
Int(Int(r(exp(r^2)),
Integrate for r
Integrate for theta
Pi((exp-1)/4)