Name: _____ I.D. # _____ Sr. # _____

1. Evaluate $\displaystyle\int_0^4 \int_{\sqrt{x}}^2 \frac{1}{y^3 + 1}\, dy\, dx$.

2. Use polar coordinates to set up (do not evaluate) an integral an integral to calculate the volume of the solid above $z = \sqrt{x^2 + y^2}$ and below $x^2 + y^2 + z^2 = 1$.