Math 211 Homework 8

16.3 18-20, 27, 30

16.5 33, 36-38

16.7 25

When changing variables, what is the purpose of the Jacobian? What does it mean if the Jacobian is a constant? Can the Jacobian be 0?

Bonus: Compute the volume of intersection of the three cylinders $x^2 + y^2 = 1$, $x^2 + z^2 = 1$, and $y^2 + z^2 = 1$.