## MATH 205: Homework 2

Due Wednesday April 11

Problems are from Boller and Sally. I recommend at least thinking about all the exercises, even if they are not assigned, as you read through the textbook. I also recommend trying to prove all the Theorems which are left unproven in the book.

**Problem 1.** Exercises 5.8.3, 5.8.4, 5.8.5

Problem 2. Exercises 5.9.4, 5.9.8, 5.9.16, 5.9.15

**Problem 3.** Write down an iterated integral to compute the volume of the following region  $\Omega$  in  $\mathbb{R}^3$ :  $\Omega$  is the region of the cylinder  $x^2 + y^2 < 1$  in between the planes z = 1 and  $z = \frac{1}{2}(x+y)$ .