

Homework 6 for M312, Section 30353
due Wednesday, October 9, 2013

1. (20 pts) Exercise 6.1.2 (p. 313).
2. (10 pts) Exercise 6.1.4 (p. 313).
3. (10 pts) Exercise 6.1.11 (p. 313).
4. (10 pts) Exercise 6.2.3 (p. 327).
5. (10 pts) Exercise 6.2.4 (p. 327).
6. (10 pts) Exercise 6.2.13 (p. 327).
7. (10 pts) Exercise 6.2.17 (p. 327).
8. (10 pts) Exercise 6.2.25 (p. 328).
9. (10 pts) Exercise 6.2.28 (p. 328).
10. (extra credit, 20 pts) Compute the volume of the following set:

$$\{(x, y, z) \in \mathbb{R}^3 : 0 \leq z \leq 1, (x^2 + y^2 + z^2 - 2yz)^2 \leq (1 - z)^2(x^2 - y^2 - z^2 + 2yz)\}.$$