

## Math2210 Midterm 3 Review Problems

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The exam covers sections 12.9, 13.1-13.4, and 13.6-13.9. You will NOT need a calculator for this exam. You can bring one 8.5x11 inch sheet of paper of notes (on both sides, if you want) to use as a reference. No electronics of any sort allowed on the exam.

### **Topics**

- Lagrange Multipliers
- Double Integrals
  - Cartesian coordinates
  - Polar coordinates
  - Area
  - change of variables (Jacobian)
- Triple Integrals
  - Cartesian coordinates
  - Cylindrical coordinates
  - Spherical coordinates
  - change of variables (Jacobian)
- Volume
- Surface Area

### **Review Questions to do for practice:**

Chapter 12 Review (pg 672-673)  
Sample Test Problems #27-29

Chapter 13 Review (pg 728-729)  
Concepts Test Problems #1-5 all, 11, 13, 14, 16, 17  
Sample Test Problems #1-12 all, 15, 16, 20, 21