MAT 21 D - Problem Set 1
Due beginning of discussion session on April 13th

Problem numbers are from Thomas' Calculus, 13th edition. If unsure about which problem to solve, ask. Collaboration is permitted but every student must write his or her own solution; looking for solutions from external sources (books, the web, material from previous years, etc.) is prohibited.

1 Solve and turn in the following problems:

1. Find the volume of the region bounded above by the plane $z = 4 - x - y$ and below by the square $R : 0 \leq x \leq 1, 0 \leq y \leq 1$.

2. For the following integral, sketch the region of integration, reverse the order of integration and evaluate the integral:

$$\int_0^1 \int_0^x x^2 e^{xy} \, \mathrm{d}y \, \mathrm{d}x.$$

2 Solve but do not turn in the following problems:

Section 15.1: 1, 17, 25, 31, 33.
Section 15.2: 1, 9, 19, 27, 29, 33, 55, 59, 79.