MA 202 Section 004 - Problem Set 2
Spring 1999

Announcements: 1. If you have not already done so. Read all of Chapter 1. You should find that several of the strategies and techniques discussed in this Chapter are used in the problems below.

2. I want to begin auditing your notebooks on Thursday. I expect to collect from half the class on Thursday. I will look all four of the problems from the first set and I hope to see some of the problems below written up. In your writeups, it is not enough to just give the answer, but you should try to explain how you arrived at the answer. Write clearly and follow standard rules of punctuation, spelling etc. Be sure to also use mathematical notation correctly. Finally, distinguish between guesses and facts. If you make a guess, is there some reason to support your guess?

1. Section 1.3, #8 and 21.

2. Suppose there are N people in a room and each person shakes hands exactly once with each other person. How many handshakes is that?

3. A single elimination tennis tournament at a park has 60 entries. One can of balls is provided for each match. How many cans of balls are required?

4. A fruit grower packs apples in boxes. Each box contains at least 240 apples and at most 250 apples. How many boxes must be selected to be certain that at least three boxes contain the same number of apples?

5. Argue convincingly that at least two people in Kentucky have the same number of hairs on their heads.

6. The hour hand and the minute hand are at the same place on a clock at 12 noon. When is the next time when the two hands are exactly together? Hint: It does not happen at 1:05, because at that time the hour hand is already past the 1.

Mathematicians are people who devote their lives to what seems to me a wonderful kind of play. —Constance Reid