MATHEMATICS 300 — FALL 1999

Introduction to Mathematical Reasoning

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HANDOUT NO. 5 *(October 4, 1999)*

READING FOR THE FIRST TEN DAYS OF CLASS

(that is, for Sept. 2-9-13-16-20-23-27-30 and October 4-7)

- the book's "Preface for the Student,"
- the book's Chapter 1 (all of it);
- the book's Chapter 2, first three sections ("Two theorems, about equations," "Quantifiers and logical statements," and "Compound statements");
- the instructor's Handouts Nos. 1, 2, 3, 4 and 5.

A REMARK ON PROBLEM 24
IN THE "PREFACE FOR THE STUDENT"

In problem 24—which was one of the questions in homework assignment No. 1— you are asked "how many positive integers less than $1,000,000$ have no common factors with $1,000,000$?"

It is fairly clear that when the authors talk about "factors" of a number n they mean "numbers larger than 1 that divide n." So **the number 1 does not count as a "factor."**

Some students wrote that the answer to problem 24 is zero, because *every number less that* $1,000,000$ *has a common factor with* $1,000,000$*, namely, the factor* 1. I believe that this is not what the authors had in mind. However, fair is fair. The authors do not say as clearly as they should have that 1 is not supposed to count as a factor. So the students who gave the answer "zero" should get full credit for this problem. **If you are one of these students, please get in touch with the grader, Laura Ciobanu (ciobanu@math.rutgers.edu) to get your grade changed.**

HOMEWORK ASSIGNMENT NO. 5

This assignment is due on Monday October 11.

- Book, problems 1.42, 1.43 and 1.46 in pages 24, 25.
- Book, problems 2.2, 2.5, 2.6, 2.9 in page 44.