

Preface

The purpose of this book is to put into effect some of the "goals of mathematics instruction" as stated in A Source Book for College Mathematics Teaching, prepared by Committee on Teaching of Undergraduate Mathematics. The particular goals that we want to put into effect are the following:

- * Mathematics instruction should be aimed at conceptual understanding rather than at mere mechanical skills, and at developing in students the ability to apply the subject matter with flexibility and resourcefulness.
- * Mathematics instruction should help students to develop what might be called a "mathematical point of view" -- a predilection to analyze and understand, to perceive structural relationships, to see how things fit together.

This book can be used as a text for a course on elementary algebra. The only (mathematical) prerequisite is familiarity with the operations with signed numbers. The book, however, assumes that there is an instructor who can explain the concepts and methods in more detail than given in the book. The "lectures" by an instructor is "multidimensional" in that the students use various senses, such as seeing, hearing, and thinking, in following the lectures. Thus, lectures are essential part of any course. Our observation is that students depend more on instructor's explanations than explanations given any book. Consequently explanations of the computational steps in examples in this book tend to be brief. This accounts for the thinness of the book. However, the book contains sufficient amount of material that can be covered in a course on beginning algebra. The strong point of this book is its coherent treatment of most of the topics contained in an elementary algebra book.