PREFACE.

THE work of which this volume forms the first or introductory part is intended to supply students of mathematics with a well-filled storehouse of solved examples and unsolved exercises in the application of the fundamental theorems and processes of pure Algebra, and to exhibit to them the highest and most important results of modern algebraic analysis. It may be used to follow and supplement the ordinary text-books, or it may be employed as a guide-book and work of reference, in a course of instruction under a teacher of mathematics.

The following are some of the special features of this volume:

It gives a large number of solutions in illustration of the best methods of algebraic resolution and reduction, some of which are not found in any text-book.

It gives, classified under proper heads and preceded by type-solutions, a great number of exercises, many of them illustrating methods and principles which are generally ignored in elementary Algebras; and it presents these solutions and exercises in such a way that the student not only sees how algebraic transformations are effected, but also perceives how to form for himself as many additional examples as he may desire.

It shows the student how simple principles with which he is quite familiar, may be applied to the solution of questions which he has thought beyond the reach of these principles; and gives complete explanations and illustrations of important topics which are omitted or are barely touched upon in the ordinary books, such as the Prin-