PREFACE

This book represents an attempt to gather up and make full use of the numerous detailed suggestions on methods of teaching Algebra, on the choice of subject matter, on the selection of illustrations, on the construction of exercises and test-papers, etc., which have come under the author's notice since he first began (fifteen years ago) to write on the subject. It is divided into three parts. Part I deals with notation, formulae, simple equations and problems; Part II includes factors, fractions, simultaneous and quadratic equations; Part III completes the course for "additional mathematics" in School Certificate. Higher Certificate and Scholarship work is dealt with in Advanced Algebra (Durell and Robson).

The book, both as regards text and exercises, is written to meet the requirements of ordinary pupils. If a book includes enough (and sufficiently difficult) examples to occupy and train pupils of special ability, it must contain much that is neither required by nor is suitable for many of the others. For this reason, an appendix has been compiled, consisting of revision exercises, harder supplementary exercises and harder test-papers; and references to it have been inserted at appropriate places. This appendix will also be of use to those teachers who like to have a large range of examples from which to make their own selection for class work, and it supplies in a systematic form the material for a revision course. Both Parts I-II (bound together) and Part III may be obtained with or without the relevant portions of the appendix. Another feature to which the author attaches importance is the provision of groups of "Extra Practice" exercises at the end of Part I and of Part II for pupils who need additional "drill"; similar exercises are included in the appendix to Part III.

The initial difficulties in Algebra are mainly due to the novelty of the notation. These are best overcome by training the pupil to think in numbers when using letters and by demonstrating the practical utility of the notation by applications to formulae. These two principles have determined the selection of the subject matter of the early chapters. Throughout the book illustrations...
have been drawn from practical geometry, physics and mechanics to increase the interest in the theory and to secure variety in its problems, and this object is furthered by a free use of diagrams.

There are a few exercises in Part III (Ex. VIII. a, c, IX. a, b) which merely elaborate types of examples included in Part II. The requirements of certain examinations make it necessary to insert them, but the continuity of the course will not be broken if they are passed over.

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C. V. D