

**FIRST LESSONS IN ALGEBRA,
BEING AN EASY INTRODUCTION
TO THAT SCIENCE: DESIGNED FOR
THE USE OF ACADEMIES AND
COMMON SCHOOLS**

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First Lessons in Algebra, Being an Easy Introduction to that Science: Designed for the use of Academies and Common Schools by Ebenezer Bailey

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EBENEZER BAILEY

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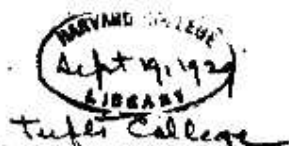
BY EBENEZER BAILEY,
PRINCIPAL OF THE YOUNG LADIES' HIGH SCHOOL, BOSTON; AUTHOR OF
"YOUNG LADIES' CLASS BOOK," ETC.

EIGHTEENTH IMPROVED STEREOTYPE EDITION.



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At a meeting of the School Committee of the City
of Boston, March 11, 1834,

Voted, That "BAILEY'S ALGEBRA" be used in the
Writing Schools in which Algebra is allowed to be taught.

Attest,

S. F. McCLEARY, *Secretary*

Entered according to Act of Congress, in the year 1834,
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PREFACE.

THIS treatise is especially intended for the use of beginners. I have long wished that Algebra might be introduced into common schools, as a standard branch of education; and there seems to be no good reason why the study of this most interesting and useful science should be confined to the higher seminaries of learning. The upper classes, at least, in common schools, might be profitably instructed in its elements, without neglecting any of those branches to which they usually attend.

This work pretends to no original investigations, no new discoveries. My labor has been the very humble one of selecting such materials as belong to the elements of Algebra, and of arranging them in such a manner as may render the introduction to the science easy. If there be any peculiarity in this work, it is its simplicity. I have endeavored to make it as plain and

intelligible as possible. There is little danger that the student will find the beginning of any art or science too easy ; and, in Algebra, he is required to learn a peculiar language, to determine new principles, and to accustom himself to an abstract mode of reasoning, with which he has been little acquainted. Let the explanations, therefore, be as full and diffuse as they may, he will still find difficulties enough to exercise his mind. I have aimed to prepare a work, which any boy of twelve years, who is thoroughly acquainted with the fundamental rules of Arithmetic, can understand, even without the aid of a teacher.

The following are the leading principles which I have observed, in preparing this treatise :—

To introduce only such parts of the science, as properly belong to an elementary work ;

To adhere strictly to a methodical arrangement, that can be easily understood and remembered ;

Never to anticipate principles, so as to make a clear understanding of the subject under consideration, depend upon some explanation which is to follow ;

To introduce every new principle distinctly by itself, that the learner may encounter but one difficulty at a time ;

To deduce the rules, generally, from practical exercises, and to state them distinctly and in form ;

To give a great variety of questions for practice under each rule ;

To solve or fully explain all questions which involve a new principle, or the new application of a principle already explained ;

To show the reason of every step, without perplexing the learner with abstruse demonstrations ;

To illustrate the nature of algebraic calculations, and their correctness, by a frequent reference to numbers ;

And, finally, to advance from simple to difficult problems in such a manner as may fully exercise the powers of the learner without discouraging him.

As this little book professes to be merely an introduction to more full and scientific treatises upon Algebra, it was not my original design to extend it beyond Equations of the First Degree. The subsequent Chapters, on Evolution and Equations of the Second Degree, have been added with a particular reference to schools for young ladies. It is presumed that the work, in its present form, contains as much of Algebra as this class of learners will, in general, find time to study.

E. BAILEY.

Boston, July, 1833.

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TO THE STEREOTYPE EDITION.

THE favor with which this treatise has been received by the public,—as manifested by the sale of the first edition, consisting of two thousand copies, in a few months, and by commendatory notices from teachers and others in almost every section of the country,—has induced the publishers to stereotype the work, and thus put it into a permanent form.

In preparing this edition, the author has made such additions and alterations as experience has suggested; and he trusts that he has rendered *THE FIRST LESSONS IN ALGEBRA* still more worthy of public favor. The arrangement of several parts of the work has been changed; some of the Chapters have been nearly rewritten, especially those on Powers and Evolution; the errors of the first edition have been carefully corrected; and many questions for practice have been added. It has, also, been thought advisable to omit the answers to the questions. These are given in a *Key*, published separately, together with solutions of all the difficult problems.

Boston, January, 1834.

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