

**MATHEMATICAL
MONOGRAPHS. NO.
10. THE SOLUTION OF
EQUATIONS**

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Mathematical Monographs. No. 10. The Solution of Equations by Mansfield Merriman

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MANSFIELD MERRIMAN

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BY

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UNDER THE TITLE

HIGHER MATHEMATICS.

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ROBERT DRUMMOND, PRINTER, NEW YORK.

EDITORS' PREFACE.

THE volume called Higher Mathematics, the first edition of which was published in 1896, contained eleven chapters by eleven authors, each chapter being independent of the others, but all supposing the reader to have at least a mathematical training equivalent to that given in classical and engineering colleges. The publication of that volume is now discontinued and the chapters are issued in separate form. In these reissues it will generally be found that the monographs are enlarged by additional articles or appendices which either amplify the former presentation or record recent advances. This plan of publication has been arranged in order to meet the demand of teachers and the convenience of classes, but it is also thought that it may prove advantageous to readers in special lines of mathematical literature.

It is the intention of the publishers and editors to add other monographs to the series from time to time, if the call for the same seems to warrant it. Among the topics which are under consideration are those of elliptic functions, the theory of numbers, the group theory, the calculus of variations, and non-Euclidean geometry; possibly also monographs on branches of astronomy, mechanics, and mathematical physics may be included. It is the hope of the editors that this form of publication may tend to promote mathematical study and research over a wider field than that which the former volume has occupied.

December, 1905.

AUTHOR'S PREFACE.

THE following pages are designed as supplementary to the discussions of equations in college text-books, and several methods of solution not commonly given in such works are presented and exemplified. The aim kept in view has been that of the determination of the numerical values of the roots of numerical equations, and algebraic analysis has been used only to further this end. Historical references are given, problems stated as exercises for the student, and the attempt has everywhere been made to present the subject clearly and concisely. The volume has not been written for those thoroughly conversant with the theory of equations, but rather for students of mathematics, computers, and engineers.

This edition has been enlarged by the addition of five articles which render the former treatment more complete and also give recent investigations regarding the expression of roots in series. While not designed for college classes, it is hoped that the book may prove useful to postgraduate students in mathematics, physics and engineering, and also tend to promote general interest in mathematical science.

SOUTH BETHLEHEM, PA.,
December, 1905.

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