

**BRIEF COURSE IN  
ALGEBRA; PP. 1-197**

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Brief Course in Algebra; pp. 1-197 by Raymond E. Manchester

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**RAYMOND E. MANCHESTER**

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# Brief Course in Algebra

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SYRACUSE, N. Y.

C. W. BARDEEN, PUBLISHER

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## ERRATA

- P. 41 10th line for 3 read 2  
19th line for 3 read 2  
81 12th line for  $-x^2$  read  $+x^2$   
133 last line for  $-\frac{1}{2}$  read  $-\frac{1}{3}$

C. 1-4-33 MEIV

TO  
Mary Jane Manchester.

Math. Lit  
12-31-1932

During the past year or two there has been a growing demand for a twenty weeks' course in Algebra which will not only serve as a preparatory course for more advanced mathematics, but will have an individual unity as well. It must offer an opportunity to the short term student to get a well established notion of the subject through quadratic equations.

This text is arranged to satisfy such a course. All unnecessary theorems, proofs, and processes have been omitted. The problem lists are very short and are to be supplemented by the instructor from the experience of the class. It is, in fact, a course in generalized arithmetic, arranged to face the demands made by the ninety per cent of students who expect to leave school either during or at the expiration of the high school course.

RAYMOND E. MANCHESTER

Oshkosh, Wis.

June 1, 1915



SECTION I

Treating of the relationship existing between  
Algebra and Arithmetic.

SECTION II

The Fundamental Operations.

SECTION III

Fractions.

SECTION IV

Powers and Roots.

SECTION V

Quadratic Equations.



# Brief Course in Algebra

## SECTION I

Treating of the relationship existing between Algebra and Arithmetic.

- A. Letter Symbols
- B. Negative Numbers
- C. The use of the equation

### Lesson 1

Algebra is an enlarged and continued course in arithmetic. As such it has a definite connection with the grade work in arithmetic and such elementary work in generalization as is attempted in the last year of grammar school.

The enlargement is (1) an addition to the Arabic symbol system by letters of the alphabet, (to stand for undetermined numbers); (2) an increase in the usefulness of the symbol system by using the plus (+) and minus (-) signs to qualify numbers (as well as for signs of operation); and (3) the use of the equation as a means of solving problems (made possible by the letter symbols). The study of arithmetical operations is continued with such revision to the rules and laws as is necessary to cover the enlarged symbol system.

### LETTER SYMBOLS

(1) Throughout the work in arithmetic, number ideas have been expressed by either a word (three),