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ELEMENTARY ALGEBRA FOR SCHOOLS

(CONTAINING A CHAPTER ON GRAPHS)

H 138
H 381

WITH ANSWERS

BY

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PREFACE.

THE distinctive features of the Eighth Edition are :—

- (1) A full treatment of Graphs, occupying more than 40 pages.

In view of the fact that great diversity of opinion exists among teachers as to the place and importance of Graphs in an elementary course, the subject has been treated in one continuous chapter. References to this chapter will be found whenever a section of it may be suitably interpolated to illustrate other parts of the text.

- (2) A new set of easy examples on Substitution in Chapter I.
- (3) The greater part of Chapter VIII., on Simple Equations, has been re-written so as to bring the use of the fundamental axioms into greater prominence, and to urge the importance of verifying solutions.
- (4) Chapter IX., on Symbolical Expression, has been enlarged. In particular the section on Formulæ has been illustrated by a new set of Examples.
- (5) A section on Square Root by inspection has been inserted in Chapter XVI.
- (6) In Chapter XVII., on Factors, a section on factorisation of trinomials, by completing the square, has been introduced. Also a large number of *easy* miscellaneous

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examples take the place of the Exercise XVII.1 of earlier editions.

This is at the request of teachers who have frequently pointed out that at this stage a larger variety of easy examples would be preferred.

- (7) Considerable additions to the chapters on Quadratic Equations. In particular a set of examples involving applications to Geometry will be found at the end of Chapter XXVII.
- (8) The chapter on Logarithms has been re-written so as to introduce and explain the use of Four-Figure Tables. The Tables of Logarithms and Antilogarithms have been taken, with slight modifications, from those published by the Board of Education, South Kensington.
- (9) An easy first course has been mapped out enabling teachers to postpone, if they wish, the harder cases of 'Long' Multiplication and Division, and the rules dependent on these processes.

H. S. HALL.

July, 1903.

SUGGESTIONS FOR A FIRST COURSE.

IN the first thirty chapters an asterisk has been placed before all articles and examples which may conveniently be omitted in a first course. Notes are occasionally given suggesting the most suitable place for a section which may have to be postponed.

For those who wish to defer to a later stage all the rules dependent on 'Long' Multiplication and Division, so as to reach Quadratic Equations earlier, the following detailed course is recommended.

CHAP. I. Arts. 1-11, 13-15. [Omit Art. 12, Examples I. c.]

CHAP. II.-V. Arts. 16-40. [Omit all the rest of Chap. V., *except Art. 44.*]

CHAP. VI. Arts. 46-50. [Omit Arts. 51-55.]

CHAPS. VII.-XIII. Arts. 56-107. In connection with Chap. XIII. Arts. 417-424 on Elementary Graphs may be read.

CHAPS. XIV., XV. Arts. 108-113. [Omit Arts. 114, 115.]

CHAP. XVI. Arts. 116-118A. [Omit Arts. 119-124.]

CHAP. XVII. Arts. 125-136. [Omit Arts. 136A-137.]

CHAP. XVIII. Arts. 138, 139. [Omit Arts. 140-148.]

CHAP. XIX. [Omit Arts. 152, 153.]

CHAP. XX. [Omit Arts. 159-163.]

CHAP. XXI. [Omit Arts. 171, 172.]

CHAP. XXII. Arts. 173-179. [Omit Arts. 180-185.]

[CHAPS. XXIII., XXIV. may be taken later.]

CHAP. XXV. **Quadratic Equations.** In connection with this chapter Arts. 425-428, 437-440 may be read.

From this point the omitted sections must be taken at the discretion of the Teacher.