CALIFORNIA STATE SERIES OF SCHOOL TEXT-BOOKS. ADVANCED ARITHMETIC

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STATE BOARD OF EDUCATION

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Trieste

CALIFORNIA STATE SERIES OF SCHOOL TEXT-BOOKS.

ADVANCED

ARITHMETIC.

COMPILED UNDER THE DIRECTION

OF THE

STATE BOARD OF EDUCATION.

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PREFACE.

The State Board of Education expect to make no revolution in teaching the old subject of Arithmetic, by the issuance of a new book. They feel, however, that arithmetics have been too much given to talking and not enough to doing—that a student seldom or never masters the thought in a long and minute explanation. He cannot understand it before working the examples, and does not need it afterward. Hence, the explanations in the present volume have been made brief, and may be enlarged by the teacher as the occasion demands.

Let no one despise the book on account of its small size, but work a class carefully through it, making it familiar by frequent reviews, and observe the effect. We respectfully invite the candid criticism of those who have done this, that the defects of the present volume may be remedied in the near future.

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CALIFORNIA SERIES.

ADVANCED ARITHMETIC.

NOTATION AND NUMERATION.

A single, whole thing is called a **unit;** as, *one, one apple, one pencil.*

Several things taken together as a whole may be a unit; as, *one dozen pencils, one pile of books, one class of boys.*

A **number** consists of one or more units; as, *one, one cent, seven, seven books, ten pens.*

Writing numbers is called NOTATION.

The notation in common use is the **decimal notation,** which employs ten different characters, or *figures*, to form all numbers.

All numbers are properly followed by a point (.), called the **decimal point;** as in the table below. In writing numbers in a series or in a sentence, the decimal point is omitted to avoid confusion with the *period.*

The following table gives the ten characters of the decimal notation in the upper horizontal row and their names beneath. Then follow their combinations, forming numbers of two figures. Put this diagram on the slate and fill out completely, writing (1) the figure (2) the combination (3) the name.

Figure Name	0 Zero	1. One	2. Two	3. Three
Figure Combination Name	10. 1 ten Ten	11. { 1 ten / 1 unit } Eleven	12. { 1 ten / 2 units } Twelve	13. { 1 ten / 3 units } Thirteen
Figure Combination Name	20. 2 tens Twenty	21. { 2 tens / 1 unit } Twenty-one	22. { 2 tens / 2 units } Twenty-two	
Figure Combination Name	30. 3 tens Thirty			
Figure Combination Name	40. 4 tens Forty			
Figure Combination Name	50. 5 tens Fifty			
Figure Combination Name	60. 6 tens Sixty			
Figure Combination Name	70. 7 tens Seventy			
Figure Combination Name	80. 8 tens Eighty			
Figure Combination Name	90. 9 tens Ninety			

Observe { *Units form the first figure at the left of the decimal*
In column 1, the absence of units is marked by 0,
any decimal place is always marked by 0.
How many units make 1 ten?

4. Four	5. Five	6. Six	7. Seven	8. Eight	9. Nine
14. {1 ten } {4 units} Fourteen	15. { 1 ten } { 5 units } Fifteen	16. { 1 ten } { 6 units } Sixteen	17. { 1 ten } { 7 units } Seventeen	18. { 1 ten } { 8 units } Eighteen	19. { 1 ten } { 9 units } Nineteen

point; tens, the second.

called **nought, zero,** *or* **cipher.** *The absence of number in*