

**ROBINSON'S SHORTER COURSE:  
KEY TO THE COMPLETE  
ARITHMETIC: FOR TEACHERS  
AND PRIVATE LEARNERS**

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Robinson's Shorter Course: Key to the Complete Arithmetic: For Teachers and Private Learners  
by Daniel W. Fish

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**DANIEL W. FISH**

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Robinson's Shorter Course.

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K E Y

TO THE

COMPLETE ARITHMETIC.

FOR

TEACHERS AND PRIVATE LEARNERS.



IVISON, BLAKEMAN, TAYLOR & CO.,  
NEW YORK AND CHICAGO.

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ROBINSON'S  
SHORTER COURSE.

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FIRST BOOK IN ARITHMETIC. PRIMARY.  
COMPLETE ARITHMETIC. In One volume.\*  
COMPLETE ALGEBRA.

ARITHMETICAL PROBLEMS. ORAL and WRITTEN.  
ALGEBRAIC PROBLEMS.

KEYS to COMPLETE ARITHMETIC and PROBLEMS, and  
to COMPLETE ALGEBRA and PROBLEMS,  
in separate volumes, for Teachers.

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*Arithmetic, ORAL and WRITTEN, usually taught in  
THREE books, is now offered, complete and thorough  
in ONE book, "THE COMPLETE ARITHMETIC."*

\* This COMPLETE ARITHMETIC is also published in TWO VOLUMES. PART I.  
and PART II, are each bound separately, and in cloth.

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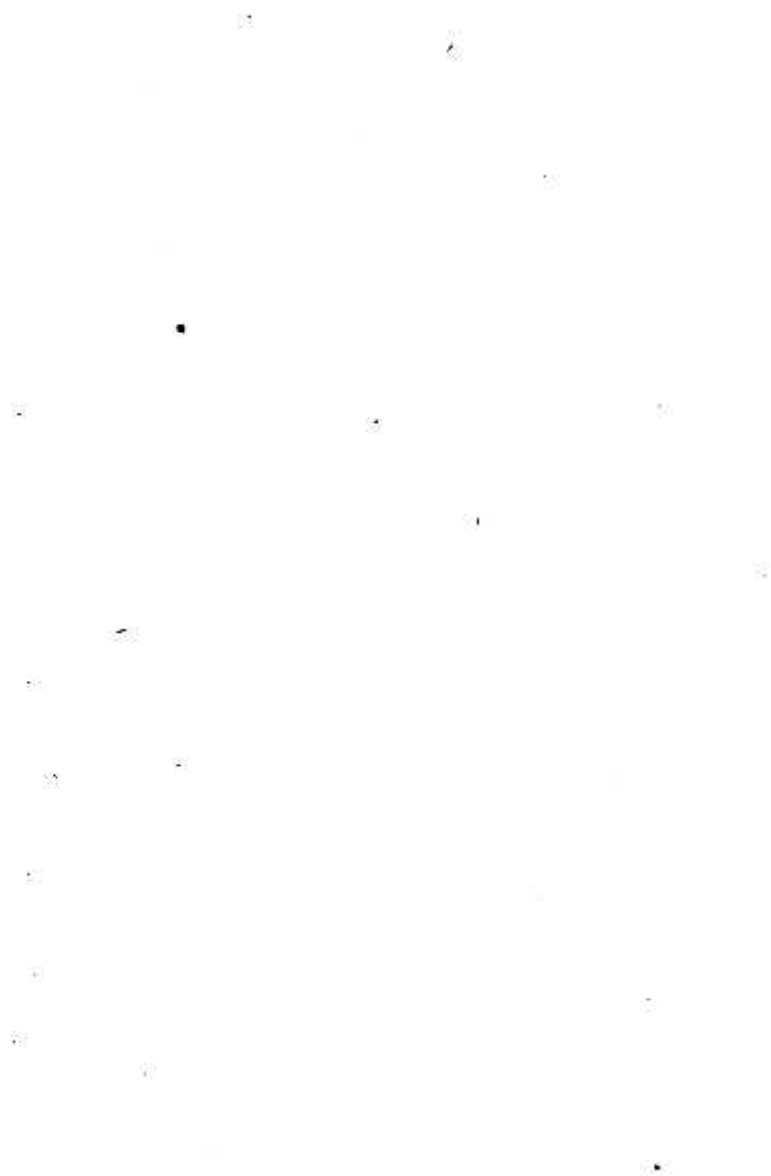
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GRADUATE SCHOOL OF EDUCATION

May 3, 1930



A KEY to any mathematical work is not indispensably necessary to many teachers, but with the multiplicity of duties ordinarily devolving upon the teacher, time cannot always be had to answer or solve all questions that may be presented by the pupil. Hence a *key* becomes a great convenience, if not a necessity, in lessening the labor, and saving the time of the teacher, by presenting the shortest solution, and the best form of analysis, as a standard to which the pupil should be required to conform.

As *this key* has not been prepared for the *pupil*, but for the *teacher* and *private learner*, solutions of all the oral, and of many of the easier written examples are not included, and the operations are much abbreviated, the partial or intermediate results being often omitted, and the processes, for the most part, indicated by signs.





# K E Y

TO THE

## COMPLETE ARITHMETIC.

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### Article 113.

1.  $(\$1500 - \$960.90) \times 3 = \$1617.30$ , *Ans.*
2.  $(\$53.62 - \$48.45) \times 7 = \$50.19$ , *Ans.*
3.  $(\$9.12 \times 388) - \$2709 = \$829.56$ , *Ans.*
4.  $\$5670 - (\$7.25 \times 365) = \$3023.75$ , *Ans.*
5.  $126720 - 108800 = 17920$ , *Ans.*
6.  $23458 - 20580 = 2878$ , *Ans.*
7.  $620 \times 60 = 37200$ , *Ans.*
8.  $542 \times 279 = 151218$ , *Ans.*
9.  $\$15760 - \$8561.25 = \$7198.75$ , *Ans.*
10.  $\$3246 + \$10938 + \$4617 = \$18801$ , whole ;  
 $\$10938 + \$4617 = \$15555$ , farm and stock.
11.  $(\$184.50 \times 48) - (\$4.80 \times 130) = \$8232$ , *Ans.*
12.  $\$1150 - (\$9 \times 125) = \$25$ , loss.
13.  $82050 - 5000 = 77050$ , *Ans.*
14.  $(97000 - 6000) + 1500 = 92500$ , *Ans.*
15.  $(\$73.46 - \$3.96) + \$1645 = \$1714.50$ , *Ans.*
16.  $\$25592.32 + (\$1759.50 \times 10) = \$43187.32$ , *Ans.*

*Art. 145.*

1.  $(2712 \div 113) \times 205 = 4920$ , *Ans.*
2.  $2124 \div 236 = 9$ , *Ans.*
4.  $36 + 114 \times 5640 - 3007 = 394950$ , *Ans.*
5.  $30128 \div (4200 \div 75) = 538$ , *Ans.*
6.  $204 \times 378 \div 378 - 204 = 443\frac{3}{4}$ , *Ans.*
7.  $\$30.76 - (\$12.36 + \$7.62) = \$10.78$ , *Ans.*
8.  $(746 \times 23) - (18975 \div 25) = 16399$ , *Ans.*
9.  $(\$3000 - \$925.60) - \$2046.25 = \$28.15$ , *Ans.*
10.  $(75 \text{ cts.} \times 1600) \div 40 \text{ cts.} = 3000 \text{ lb.}$
11.  $(\$3376.25 - \$638.75) \div 365 = \$7.50$ , *Ans.*
12.  $170352 \div 4 = 42588$ , *Ans.*
13.  $(17605 \div 5) \times 204 = 718284$ , *Ans.*
14.  $(\$133 \times 28) \div (\$1500 - \$968) = 7 \text{ yr.}$ , *Ans.*
15.  $166656 \div 3 = 55552$ , *Ans.*
16.  $12624 \times 4 = 50496$ , *Ans.*
17.  $43950 \div 6 = 7325$ , *Ans.*
18.  $91864 \times 9 = 826776$ , *Ans.*
20.  $(\$ .60 + \$ .78 + \$ .90) \div 3 = \$ .76$ , *Ans.*
21.  $(\$104 + \$97 + \$128 + \$99) \div 4 = \$107$ , *Ans.*
22.  $(\$1500 + \$2976 + \$1895) \div 3 = \$2123\frac{1}{3}$ , *Ans.*
23.  $\$487.20 \div (\$25 - \$8.75 + \$4.65) = 42 \text{ weeks}$ , *Ans.*
24.  $(\$4578 - \$1642) \div 8 = \$387$ , *Ans.*
25.  $(\$75 \times 86 + \$54 \times 54) - \$7560 = \$1806$ , *Ans.*
26.  $\$6780 + \$8200 + \$8306 + (\$8306 - \$1345) = \$30247$ .

28.  $(5672 - 1974) \div 2 = 1849$ , less, *Ans.*  
 29.  $(\$1250 - \$190) \div 2 = \$530$ , carriage, *Ans.*  
 30.  $(3789 - 227) \div 2 = 1781$  votes, U. C., *Ans.*  
 31.  $(\$28475 - \$4625) \div 2 = \$11925$ , less sum, *Ans.*  
 32.  $(240 \div 5 + 10 + 15) \times 3 = 24$  boxes, *Ans.*  
 33.  $(\$2492 - \$1424) \div 3 = 356$  Cd.;  
 $\$1424 \div 356 = \$4$  cost, *Ans.*  
 34.  $(269 - 3 \div 14) + 37 - 48) \times 36 = 288$ , *Ans.*  
 35.  $(529 \times 6) \div 1587 = 2$ , *Ans.*  
 36.  $(15135 \div 3025 \times 48) \div 24 = 10$ , *Ans.*  
 37.  $4392 \div 4 + 378 = 1476$ , *Ans.*  
 38.  $450 + \frac{1}{3} + 15 = 469$ , *Ans.*

*Art. 171.*

<p>10.</p> <table style="border-collapse: collapse;"> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">3281</td><td style="padding: 2px 5px;">3</td><td style="border-left: 1px solid black; padding: 2px 5px;">9843</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">2805</td><td style="padding: 2px 5px;">3</td><td style="border-left: 1px solid black; padding: 2px 5px;">986</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">476</td><td style="padding: 2px 5px;">1</td><td style="border-left: 1px solid black; padding: 2px 5px;">476</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">459</td><td style="padding: 2px 5px;">1</td><td style="border-left: 1px solid black; padding: 2px 5px;">459</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;"><i>Ans.</i> 17</td><td style="padding: 2px 5px;">27</td><td style="border-left: 1px solid black; padding: 2px 5px;">459</td></tr> </table>	3281	3	9843	2805	3	986	476	1	476	459	1	459	<i>Ans.</i> 17	27	459	<table style="border-collapse: collapse;"> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">10353</td><td style="padding: 2px 5px;">1</td><td style="border-left: 1px solid black; padding: 2px 5px;">14877</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">9048</td><td style="padding: 2px 5px;">2</td><td style="border-left: 1px solid black; padding: 2px 5px;">4524</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">1505</td><td style="padding: 2px 5px;">3</td><td style="border-left: 1px solid black; padding: 2px 5px;">3915</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">1218</td><td style="padding: 2px 5px;">2</td><td style="border-left: 1px solid black; padding: 2px 5px;">609</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;"><i>Ans.</i> 87</td><td style="padding: 2px 5px;">7</td><td style="border-left: 1px solid black; padding: 2px 5px;">609</td></tr> </table>	10353	1	14877	9048	2	4524	1505	3	3915	1218	2	609	<i>Ans.</i> 87	7	609
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<p>11.</p> <table style="border-collapse: collapse;"> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">620</td><td style="padding: 2px 5px;">1</td><td style="border-left: 1px solid black; padding: 2px 5px;">620</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">496</td><td style="padding: 2px 5px;">1</td><td style="border-left: 1px solid black; padding: 2px 5px;">496</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">124</td><td style="padding: 2px 5px;">4</td><td style="border-left: 1px solid black; padding: 2px 5px;">496</td></tr> </table>	620	1	620	496	1	496	124	4	496	<table style="border-collapse: collapse;"> <tr><td style="border-right: 1px solid black; padding: 2px 5px;"><i>Ans.</i> 124</td><td style="padding: 2px 5px;">13</td><td style="border-left: 1px solid black; padding: 2px 5px;">1488</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;"></td><td style="padding: 2px 5px;"></td><td style="border-left: 1px solid black; padding: 2px 5px;">1488</td></tr> </table>	<i>Ans.</i> 124	13	1488			1488
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