

**A COMPLETE COURSE OF
QUESTIONS IN ARITHMETIC &
MENSURATION: FOR THE USE OF
SCHOOLS AND PRIVATE
STUDENTS**

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A Complete Course of Questions in Arithmetic & Mensuration: For the Use of Schools and Private Students by Richard Bowling

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RICHARD BOWLING

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A COMPLETE
COURSE OF QUESTIONS
IN
ARITHMETIC & MENSURATION,
FOR THE USE OF
SCHOOLS AND PRIVATE STUDENTS.

BY
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1858.

181. C. 4.

IN A SHORT TIME WILL BE PUBLISHED,

BY THE SAME AUTHOR,

A KEY TO THE QUESTIONS

CONTAINED IN THIS WORK,

EMBRACING NOT ONLY THE ANSWERS TO THE WHOLE, BUT ALSO, IN A
CONDENSED FORM, THE WORKING TO MANY OF THEM.



P R E F A C E .

AMONG the various branches of study pursued by youths, no one is of more importance than a practical acquaintance with Arithmetic; and judging from experience, few are more superficially studied. One of the causes of this slight acquaintance with what cannot be too thoroughly understood, is, in my opinion, the custom of youths working for a length of time *exclusively* in one rule, then passing on to another, which is worked in the same way, and so on through the book: the great evil of this system is, that the pupil acquires a habit of working mechanically; a process which evades very materially any effort of the *thinking power*, without which, all working in Arithmetic, as in every other branch of study, is utterly worthless as a source of *mental training*. To counteract this evil is the principal object I have had in view in composing and arranging the following work; and as it is the result of an experience of many years' teaching, and the great majority of the questions were composed expressly to meet the difficulties which youths find in working the various rules, I feel the greatest confidence in placing it in the hands of gentlemen engaged in teaching Arithmetic and Mensuration, being assured that it will be to them, what it has been to me, a valuable help in inducing their students to *think*, which is the principal object a teacher will always have in view.

The Questions are arranged on the principle that as soon as a youth understands a rule he should cease working *exclusively* in it, and occupy himself with every rule from the commencement of the work to the end of that rule. To enable him to pursue this course, I have given numerous examples under each rule, that he may be able to *understand thoroughly the principle of it*; but at stated periods I have introduced examination papers, embracing every rule from the commencement of Arithmetic to the close of that rule. These examination papers, which constitute the peculiarity of the work, will be found of invaluable service to the student, as they embody all the rules which he has worked, but do not contain a single question that is beyond his power, if he exert himself; as it was not my object to try to *puzzle him*, but to use such plainness of language that the questions might be easily understood, and yet be such as should tend directly to his improvement; and when he has gone through the course of Arithmetic here presented to him, he will be prepared to understand and appreciate the beautiful reasoning of Euclid, which should be placed in his hands on his commencing the study of Mensuration, that his acquaintance with it may keep pace with his progress in that very useful part of a practical Education.

Milk Street School,

Sheffield, January, 1858.

QUESTIONS IN ARITHMETIC.

NOTATION AND NUMERATION.

Express in Figures—

- 1 Fifty-seven.
- 2 One hundred and thirty-two.
- 3 Seven hundred and five.
- 4 Two thousand one hundred and eighty-nine.
- 5 Five thousand and nine.
- 6 Thirty-seven thousand and sixty-three.
- 7 Sixty-nine thousand, four hundred and ten.
- 8 Forty-four thousand, and two.
- 9 One hundred thousand, and one.
- 10 Seventy thousand, and sixty-six.
- 11 Six hundred and fifteen thousand, and nine.
- 12 One million, two hundred and sixty-three thousand, seven hundred and fourteen.
- 13 Three millions, three thousand, and three.
- 14 Twenty-nine millions, eight hundred and fifty-four thousand, six hundred and seven.
- 15 Ten millions, and three.
- 16 Ninety-five millions, two thousand, and nine.
- 17 Eight thousand, and thirty-eight.
- 18 Sixty millions, seven hundred and three thousand, four hundred and twenty-one.
- 19 Fourteen millions, fourteen thousand, and fourteen.
- 20 Seven hundred and ninety-six millions, six hundred and fifty-three thousand, four hundred and ninety-five.

Express in words—

1	74	11	7004709
2	704	12	123456789
3	4704	13	940000
4	7499	14	10010019
5	9007	15	674079
6	40117	16	20000002
7	20019	17	417418697
8	147647	18	2600742
9	20104	19	18647409
10	47039	20	700401001

SIMPLE ADDITION.

- $746 + 9479 + 42 + 42798 + 423$
- $4987 + 74296 + 26 + 9879 + 74356$
- $247 + 42987 + 64 + 428 + 79989$
- $9497 + 69496 + 709 + 5436 + 62439$
- $526 + 475 + 6498 + 429 + 98749$
- $4737 + 34 + 749 + 9879 + 24896$
- $949 + 8376 + 4798 + 59874 + 749$
- $4276 + 649 + 973 + 94956 + 4738$
- $686 + 7843 + 949 + 4739 + 9768$
- $749896 + 26 + 8987 + 4976 + 26 + 249 + 98742 + 64989$
 $+ 748$
- $4986 + 98799 + 7436 + 598798 + 26 + 4277 + 89079 +$
 947389
- $874 + 4799 + 94998 + 26 + 427 + 943759 + 4268 + 749$
 $+ 84768$
- $7986 + 427 + 94989 + 73 + 576 + 49798 + 947998 + 743$
 $+ 74896$
- $8674 + 423 + 4998 + 74986 + 643 + 49879 + 6765 +$
 49869
- $9789 + 26279 + 57 + 26897 + 499 + 7856 + 49837 +$
 26987
- $289 + 9547 + 87989 + 436 + 94789 + 210426 + 537 +$
 7654
- $6178 + 473 + 94798 + 4759 + 86295 + 46 + 749 + 98786$
- $26 + 2937 + 478 + 94986 + 6478 + 259 + 7862 + 264 +$
 4787
- $4796 + 689 + 7496 + 427 + 64 + 587 + 4987 + 26476 +$
 6479
- $743 + 4987 + 7654 + 426 + 84769 + 987654 + 53 + 8476$

SIMPLE SUBTRACTION.

- 1 74700964—1864937
- 2 846214734—6478957
- 3 72010732—219864
- 4 647314869—1749467
- 5 47826142679—247864289
- 6 94101020304—123456789
- 7 6543210426—417419954
- 8 147186947—24680135
- 9 742864965—654321796
- 10 87438647—14674186
- 11 96543749—71498967
- 12 6547310969—4274156
- 13 98574986—19869876
- 14 123456789—98785532
- 15 9497102118—65467896
- 16 410785432—24678746
- 17 5423104286—43718649
- 18 67101420110—142314678
- 19 4237468146—734186473
- 20 1234567471—758647496

SIMPLE MULTIPLICATION.

- | | |
|-------------------|----------------------|
| 1 749869726 × 2 | 11 7647489 × 13 |
| 2 473698437 × 3 | 12 494867 × 14 |
| 3 674989746 × 4 | 13 8478969 × 749 |
| 4 4897645 × 5 | 14 479809 × 74089 |
| 5 79898976 × 6 | 15 64187498 × 24009 |
| 6 91478947 × 7 | 16 914731496 × 74804 |
| 7 846497846 × 8 | 17 47314874 × 67804 |
| 8 94374798 × 9 | 18 91472356 × 47907 |
| 9 42642749 × 11 | 19 919879664 × 76405 |
| 10 947364129 × 12 | 20 7498739 × 98706 |

SIMPLE DIVISION.

- | | |
|-----------------|-----------------------|
| 1 7986946 ÷ 2 | 7 4796478946 ÷ 74 |
| 2 194718647 ÷ 3 | 8 6474786943 ÷ 43 |
| 3 147864678 ÷ 4 | 9 9876543216 ÷ 248 |
| 4 274698496 ÷ 5 | 10 4796847469 ÷ 725 |
| 5 794674986 ÷ 6 | 11 9874946743 ÷ 847 |
| 6 142734697 ÷ 7 | 12 47387624746 ÷ 9418 |