AN ANALYTICAL ARITHMETIC, IN SIX PARTS

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An Analytical Arithmetic, in Six Parts by J. M. Bandy

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IN SIX PARTS.

BY

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PREFACE.

By most authors Arithmetic has not been so represented as to secure logical habits of mind, the power of independent thought, and that quickess of apprehension which is so sure to follow a course of Analytical Arithmetic.

From this it is to be inferred that Rules and Mechanical devices by which the above-mentioned good effects are not obtained will be ignored. One new feature of this book, therefore, will be that after donning the Analytical dress, a Rule shall not appear on every page.

To give the student the mastery over business problems of life; and, at the same time, should it be desired, to enable him to successfully study the higher mathematics, are the objects of this book.

It is to be placed in the hands of those who can add, substract, multiply, and divide.

SUGGESTIONS.

This book being Analytical throughout does not propose to sacrifice Reasoning for time and brevity. Were it to do so, it would fail to accomplish its object. Time and Patience must be exercised by both teacher and pupil. If it take time to go through with all the Analysis, it is its highest recommendation. Rome was not built in a day.

The reasoning Faculties are not developed without exercise. Take the time to drill.

AN EXPLANATION

OF SIGNS USED IN THIS BOOK.

$\therefore$ is to be read "*therefore.*"

$\because$ is to be read "*since.*"

$\times$, standing between numbers, is to be read "*so many times*" the number following it.

$=$ is to be read "*equals.*"

(N. B.—This last character is not used in the same sense in which it is used in algebra.)

1. Arithmetic is naturally divided into two parts: Whole Numbers and Fractions. **Whole Numbers** will be treated first.

2. A **Number is a Unit,** or a **Collection of Units**; as **One Apple, Twelve Apples.**

3. A **Unit** is a single thing; as One Marble. It is the basis of all Numbers, and, therefore, the basis of that knowledge which leads to an intelligent understanding of Arithmetic.

4. Analysis in Arithmetic makes the Unit the Basis of all Reasoning. In reasoning, therefore, if we do not start with the Unit, we must pass from the Given Number (=Collection of Units) to its Unit; then, to the Number of required Units.

5. It is claimed that the **Analyses,** which appear in this book, possesses a uniformity not found in any other book. They are simpler than those found in any other book, and, therefore, clearer.

PART I.

WHOLE NUMBERS.

CHAPTER I.

1. If one bushel of wheat cost 80 cents, what must be paid for 20 bushels?

6. Analysis.

1 bushel=80 cents,

20 bushels=20×80 cents=$16.00.

2. Bought 45 cords of wood at 4 dollars a cord; what was the cost of the wood?

3. A drover bought 164 head of cattle at 8 dollars a head; what did he pay for all?

4. If a piece of calico contains 27 yards; how many yards are contained in 9 pieces?

5. If a steam boat goes at the rate of 14 miles per hour; how far will it go in 6 hours?

6. If 16 yards of cloth will cover an office floor; how many yards will be required for 7 offices?.

*This mark *must* be read "times"; thus, in the above *twenty times* 80 cents. Not *multiplied by*. This *manner* of reading *must be strictly observed*.