

ARITHMETIC.

DEFINITIONS, NOTATION AND NUMERATION.

ARTICLE 1. By a UNIT is meant a single object or thing, considered as one and undivided.

2. NUMBER is the name by which we signify how many objects or things are considered, whether *one* or *more*. When, for instance, we speak of one horse, two apples, three yards, or four hours, the number of the things referred to will be one, two, three, or four, according to the case; and so one, two, three, four, and the rest, are called numbers.

3. NUMBERS are considered either as ABSTRACT or CONCRETE.

Abstract numbers are those which have no reference to any particular kind of unit; thus, five, as an abstract number, signifies five units only, without any regard to particular objects.

Concrete numbers are those which have reference to some particular kind of unit; thus, when we speak of five hours, six yards, seven horses, the numbers five, six, seven, are said to be concrete numbers, having reference to the particular units one hour, one yard, one horse, respectively.

4. ARITHMETIC is the science of Numbers.

5. All numbers in common Arithmetic are expressed by means of the figure 0, commonly called zero or a cypher, which has no value in itself, and nine significant figures, 1, 2, 3, 4, 5, 6, 7, 8, 9, which denote respectively the numbers one, two, three, four, five, six, seven, eight, nine. These ten figures are sometimes called DIGITS; but this name is often improperly limited to the nine significant figures above mentioned, which are then called the nine digits.

The number one, which is represented by the figure 1, is called UNITY.

6. When any of these figures stands by itself, it expresses its simple or intrinsic value: thus, 9 expresses nine abstract units, or nine particular things: but when it is followed by another figure,