

A Brief Description On Arithmetic Operations

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Commentary

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DESCRIPTION

Arithmetic

Arithmetic is a discipline of mathematics that studies numbers, particularly the characteristics of classical operations on them such as addition, subtraction, multiplication, division, exponentiation, and root extraction. Arithmetic is a fundamental aspect of number theory, which, along with algebra, geometry, and analysis, is regarded one of the top-level divisions of modern mathematics. The phrases arithmetic and higher arithmetic were used as synonyms for number theory until the early twentieth century, and are now occasionally used to refer to a broader section of number theory.

Arithmetic operations

Although addition, subtraction, multiplication, and division are the most basic arithmetic operations, arithmetic also includes more advanced operations such as percentage manipulations, square roots, exponentiation, logarithmic functions, and even trigonometric functions, in the same vein as logarithms (prosthaphaeresis). Arithmetic expressions must be evaluated in the order in which they were intended.

There are numerous ways to define this, the most frequent of which is to use parentheses explicitly and rely on precedence rules, or to use a prefix or postfix notation, which fix the execution order by themselves. A field is a

collection of objects on which all four arithmetic operations (except division by zero) may be performed and which fulfill the normal rules (including distributivity).

Addition

The most fundamental arithmetic operation is addition, which is expressed by the symbol $+$. Addition, in its most basic form, combines two numbers, the addends or terms, to generate a single number, the sum of the numbers (for example, $2+2=4$ or $3+5=8$).

Summation is a phrase that is also used to represent the definition for "adding infinitely many numbers" in an infinite series. Adding finitely many numbers may be considered as repeating simple addition; this method is known as summation. The most basic type of counting is repeated addition of the number 1; the result of adding 1 is commonly referred to as the successor of the original number.

Subtraction

Subtraction is the inverse of addition and is symbolized by the symbol $-$. The difference between two integers is found by subtracting the minuend from the subtrahend: $D=M-S$. Using the previously established addition as a guide, the difference is the amount that, when added to the subtrahend, yields the minuend: $M=D+S$.

Multiplication

Multiplication is the second basic arithmetic operation, indicated by the symbols \times or \cdot . Multiplication also produces a single number, the product, by combining two numbers. The multiplier and multiplicand are the two original numbers, which are commonly referred to as factors.

Multiplication may be thought of as a scaling procedure. Multiplication by a number bigger than 1, say x , is the same as stretching everything away from 0 evenly, until the number 1 itself reaches the point where x was. Multiplying by a number smaller than 1 is analogous to squeezing towards 0 such that 1 is transferred to the multiplicand.

Another way to look at multiplication of integer numbers (which can be extended to rationals but is difficult to do with real numbers) is to think of it as repeated addition. As an example, $3 \cdot 4$ equal either 3 times a 4 or 4 times a 3, resulting in the same outcome. Varied people have different perspectives on the benefits of these paradigmatic in math instruction.