Arithmetic operations

Arithmetic operations is a branch of mathematics, that involves the study of numbers, operation of numbers that are useful in all the other branches of mathematics. It basically comprises operations such as Addition, Subtraction, Multiplication and Division. These basic mathematical operations (+, -, ×, and ÷) are used in our everyday life. Whether we need to calculate the annual budget or distribute something equally to a number of people .

The four basic arithmetic operations in Maths, for all real numbers, are:

Addition (Finding the Sum; '+')is a mathematical process of adding things together. The addition process is denoted by **'+'** sign. It involves combining two or more numbers into a single term. In addition , the order does not matter. It can involve any type of number whether it be a real or complex number, fraction, or decimals.

Example: 4.13 + 3.87 = 8

The following are the addition rules for integers:

- Addition of two positive integers is a positive integer
- Addition of two negative integers is a negative integer
- While adding positive and negative integers, subtract the integers and use the sign of the largest integer number
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Subtraction operation (Finding the difference; '-') gives the difference between two numbers. Subtraction is denoted by **'-'** sign. It is almost similar to addition but is the conjugate of the second term. It is the inverse process of addition. The addition of the term with the negative term is known as subtraction. This process is mostly used to find how many are left when some things are taken away.

The following are the subtraction rules for integers:

- If both the signs of the integers are positive, the answer will be the positive integer
- If both the signs of the integers are negative, the answer will be the negative integer

- If the signs of the integers are different, subtract the values, and take the sign from the largest integer value.

Multiplication (Finding the product; '×') is known as repeated addition. It is denoted by '×' . It also combines with two or more values to result in a single value. The multiplication process involves multiplicand, multiplier. The result is called the product

Example: 2 × 3 = 6

Here, "2" is the multiplier, "3" is the multiplicand, and the result "6" is called the product.

The division (Finding the quotient; '÷') is usually denoted by '÷' and is the inverse of multiplication. It constitutes two terms dividend and divisor, where the dividend is divided by the divisor to give a single term value. When the dividend is greater than the divisor, the result obtained is greater than 1, or else it would be less than 1.

Example: 4 ÷ 2 = 2

Here, "4" is the dividend, "2" is the divisor, and the result "2" is called the quotient.

The following are the division rules for integers:

- The division of two positive integers is a positive integer
- The division of two negative numbers is a positive integer
- The division of integers with different signs results in the negative integer.

Arithmetic is the fundamental of mathematics that includes the operations of numbers. These operations are addition, subtraction, multiplication and division. Arithmetic is one of the important branches of mathematics, that lays the foundation of the subject 'Maths' .

3 + 5 = 8
three plus five equals eight
five added to three makes eight
three added to five makes eight
if you add five to three you get eight

8 - 5 = 3
eight minus five equals three
five subtracted from eight equals three
if you subtract five from eight you get three
if you take five from eight you get three

5 x 6 = 30
five times six equals thirty
five multiplied by six equals thirty
five sixes are thirty
if you multiply 5 by 6 you get thirty

15 ÷ 3 = 5
15 / 3 = 5
fifteen divided by three equals five
five goes into fifteen three times
if you divide fifteen by three you get five
if you divide three into fifteen you get five

√
square root

√16 = 4
the square root of sixteen equals four
the square root of sixteen is four

A linear equation in two variables doesn't involve any power higher than one for either variable. It has the general form:

Ax+By+C=0 Ax + By + C = 0 Ax+By+C=0

where A, *B* and *C* are coefficients .

A quadratic equation, on the other hand, involves one of the variables raised to the second power. It has the general form

y=ax2+bx+c y = ax^2 + bx + cy=ax2+bx+c
In the quadratic equation the variable x has no given value, while the values of the coefficients are always given which need to be put within the equation,