

I'm not robot!

Addition and Subtraction Tricks 11 November 2020 Reading Time: 6 Minutes Do you want to get 10 times faster at calculations? Do you want to master addition and subtraction? Mathematics has always seemed to be challenging to study for many. To make it friendly to learners, continued efforts, research, and advancements are continuously made throughout human beings' history. In ancient times, easy methods of mathematical operations, namely, addition and subtraction, etc. had been in practice. Vedic mathematics simplifies mathematical operations. Formulae and concepts of Vedic mathematics are widely accepted world over. Vedic mathematics was an ancient method of solving mathematics problems. Later, Shankaracharya Swami Bharati Krishna Tirtha discovered Vedic mathematics. He is called the Father of Vedic mathematics. Source: Hindusciptrures.com Vedic mathematics tricks are beneficial in competitive examination. Vedic is a Sanskrit word, the root word being Vid. It means knowledge; Ved means knowing all without limit. Vedic mathematics consists of Sutras to solve mathematical problems easily and speedily. Though it is outdated, it is helpful to solve mathematical problems mentally and easily. The name Vedic signifies its origin as Vedas. Of the 4 Vedas, Vedic mathematics is part of Atharva Veda, the 4th Veda. Veda is all-embracing i.e., Engineering, mathematics, science, medicine, and sculpture, etc. Vedic mathematics covers applications to arithmetical calculations, number theory, algebraic equations, simultaneous equations, partial fractions, calculus, square root, cube root, coordinate geometry etc. Also read: Downloadable PDF If you ever want to read it again as many times as you want, here is a downloadable PDF to explore more. Addition and Subtraction Tricks Download There are techniques for solving mathematical problems. These techniques are tricks resulting in efficiency and speed in solving mathematical problems. It ultimately leads to mental calculations. It consists of operations made repeated. Vedic mathematics tricks give answers in one step. Efficiency and ability for memorizing reduce calculations. Hence speed, time, money, and accuracy are not compromised. In ancient times, first mathematical operation was by counting from 1 and adding 1 further as below: $1 + 1 = 2, 2 + 1 = 3, 3 + 1 = 4, \dots$ $9 + 1 = 10$ and further with multiple additions. Counting was done by use of fingers and other rude methods earlier. Over time, they became known and familiar results in memory. Thus, counting and adding existed. By repetition of these processes, again and again, we are familiar with most common numbers. The most basic arithmetic sequence is 'Memorize and no need to calculate'. Basic sets to memorize 1. All sums up to 10 $2 + 4 = 6, 3 + 5 = 8, 4 + 6 = 10, 5 + 5 = 10$. 2. Addition of all single digit numbers. $5 + 5 = 10, 6 + 7 = 13, 7 + 7 = 14, 9 + 8 = 17$ etc. 3. All compositions of 10. $5 + ? = 10, 6 + ? = 10, ? + 6 = 10, 1 + 9 = 10, 2 + 8 = 10, 3 + 7 = 10, 4 + 6 = 10, 5 + 5 = 10$ Merely on seeing such pairs, the sum is understood mentally. Benchmarks To add one-digit number to another digit number, the technique involves having a basic number for easy calculation. To have multiples of 10 as benchmarks is safe and easy. $23 + 8, 20 + 3 + 8 = 20 + 11 = 31, 126 + 8$. Benchmark 130. $126 + 4 + 4 = 130 + 4 = 134$. Breaking apart by place value. Decimal place value system for every number is used. $14 + 77 = 10 + 4 + 70 + 7 = 10 + 70 + 4 + 7 = 80 + 11 = 91, 42 + 66 = (40 + 2) + (60 + 6) = (40 + 60) + (2 + 6) = 100 + 8 = 108$. Nature of additions 1. Additions are Commutative In sums for additions, the numbers can be rearranged or interchanged. The result will be the same, even after the rearrangements. $8 + 3 = 3 + 8 = 11, 6 + 41 = 41 + 6 = 47, 22 + 63 = 63 + 22 = 85$ Generalizing, $a + b = b + a$ Multiplication of numbers in a sum is also commutative. (operations in subtraction and division are not commutative. $6 \cdot 3 \neq 3 \cdot 6$ and $6 \div 3 = 2 \neq 3 \div 6 = 12$ 2. Addition is Associative This is another law of addition. As per this law, problems of additions with a greater number of additions, the items can be added in any order. The answer will not change. $(1 + 8) + 5 = 1 + (8 + 5) = 14, 4 + (21 + 6) = (4 + 21) + 6 = 31$ General rule: $a + (b + c) = (a + b) + c$ 3. Partitioning and Reasoning When 1 is added to any positive number, If the last digit is not 9, the last digit of the number is raised to the next higher number. $6897 + 1 = 6898$ If all the digits are nines, except the first digit, replace them with zeros and raise the first digit to the next higher number. $6999 + 1 = 7000$. Subtraction is the opposite of the addition process. By going through the following examples, substitution can be learnt. Subtraction is made easy and simple mathematical operation by Vedic mathematics. 1. Subtracting 1 $10 - 1 = 9, 100 - 1 = 99$ When subtracting 1 from zero, the answer contains only 9s. 2. Subtraction from power of 10 In this technique, we take the nearest power of 10 for the numbers involved and subtract the numbers from the base. Another rule called Nikhilam rule helps us. Nikhilam is one of the 16 main Sutras of Vedic mathematics. Nikhilam rule says, "All from 9 and the last from 10". $10000-8675, 99910 - 8675 = 1325$ Answer. In this, we subtract each digit of the number simply from 9 for all digits except for the last digit, which is subtracted from 10. If the number has a smaller number of digits, add leading zeros to have more digits. $10000-875 = 999910-00875 = 999910 - 00875 = 99125$ Answer. Subtracting is less than minuend. $3625 - 1789$ Subtract the subtrahend from the highest next power of 10 by Nikhilam rule. $99910 - 1789 = 9211$ Add the result to the minuend, i.e., $3625 + 9211 = 11836$. Deleting the first digit, 1, the answer is 1836. In this, 2380, the last digit from the left is zero. Here '0' is to be subtracted from 10, keeping the zero as the last digit from left. Then, $99100 - 2380 = 7620 + 4529 = 12149$ Deleting the left first digit, the answer is 2149. $45827 - 398$ (subtrahend is of less digits than minuend) i.e., $45827 - 00398$ i.e., $999910 - 00398 = 99602$ -----(1) Add (1) with $45827, 99602 + 45827 = 145429$ Deleting 1, the answer is 45429. Minuend less than subtrahend $351 - 497$ Apply NIKHILAM rule to Minuend $9910 - 351 = 649$ Add subtrahend $649 + 497 = 1146$ Deleting 1, first digit at left, the answer is -146. Related Articles Vedic Maths tricks, Addition, Subtraction, Multiplication & Division for Class 6 to 12, is a system of reasoning and mathematical working based on ancient Indian teachings called Veda and it is fast, efficient, easy to learn. Vedic mathematics, which simplifies arithmetic and algebraic operations (Given in your NCERT Solutions), has increasingly found acceptance the world over. Discuss Your Queries here with your Friends. Experts suggest that it could be a handy tool for those who need to solve mathematical problems faster by the day. How fast you can solve a problem is very important (NCERT Exemplar problems provide the same practice). There is a race against time in all the competitions. Only those people having fast calculation ability will be able to win the race. Time saved can be used to solve more problems or used for difficult problems. Class:6 to 12Contents:Vedic Maths Free NCERT Solutions for 2022-23 The "Vedic Mathematics" is called so because of its origin from Vedas. To be more specific, it has originated from "Atharva Vedas" the fourth Veda. "Atharva Veda" deals with the branches like Engineering, Mathematics, sculpture, Medicine, and all other sciences with which we are today aware of. The Sanskrit word Veda is derived from the root Vid, meaning to know without limit. The word Veda covers all Veda-Sakhas known to humanity. The Veda is a repository of all the knowledge, fathomless, ever revealing as it is delved deeper. Vedic Mathematics introduces the wonderful applications to Arithmetical computations (Which are included in the Class 6, Class 7 and Class 8), theory of numbers, compound multiplications, algebraic operations, factorisations, simple quadratic and higher order equations, simultaneous quadratic equations, partial fractions, calculus, squaring, cubing, square root, cube root and coordinate geometry etc. It helps a person to solve mathematical problems 10-15 times faster. It helps m Intelligent Guessing It is useful not only for junior classes but Class 9 and Class 10 Maths also. It reduces burden (need to learn tables up to 9 only) 1. It is a magical tool to reduce scratch work and finger counting 2. It increases concentration. 3. It helps in reducing silly mistakes This subject was revived largely due to the efforts of Jagadguru Swami Bharathi Krishna Tirtha Ji of Govardhan Peeth, Puri Jaganath (1884-1960). Having researched the subject for years, even his efforts would have gone in vain but for the enterprise of some disciples who took down notes during his last days. The basis of Vedic maths, are the 16 sutras, which attribute a set of qualities to a number or a group of numbers. The ancient Hindu scientists (Rishis) of Bharat in 16 Sutras (Phrases) and 120 words laid down simple steps for solving all mathematical problems in easy to follow 2 or 3 steps. Vedic Mental or one or two line methods can be used effectively for solving divisions, reciprocals, factorisation, HCF, squares and square roots, cubes and cube roots, algebraic equations, multiple simultaneous equations, quadratic equations, cubic equations, biquadratic equations, higher degree equations, differential calculus, Partial fractions, Integrations, Pythagoras Theorem, Apollonius Theoram, Analytical Conics and so on. Vedic scholars did not use figures for big numbers in their numerical notation. Instead, they preferred to use the Sanskrit alphabets, with each alphabet constituting a number. Several mantras, in fact, denote numbers; that includes the famed Gayatri Mantra, which adds to 108 when decoded. Vedic Maths provides answer in one line where as conventional method requires several steps. It is an ancient technique, which simplifies multiplication, divisibility, complex numbers, squaring, cubing, square and cube roots. Even recurring decimals and auxiliary fractions can be handled by Vedic Mathematics. Vedic Mathematics forms part of Jyotish Shastra which is one of the six parts of Vedangas. The Jyotish Shastra or Astronomy is made up of three parts called Skandas. A Skanda means the big branch of a tree shooting out of the trunk. In Vedic maths System a manual approach is preferred. The simplicity of Vedic Mathematics encourages most calculations to be carried out without the use of paper and pen. Methods like Shudh Method is applicable in statistics. This mental approach sharpens the mind, improves memory and concentration and also encourages innovation. It will be helpful in long run if we start implementing vedic Maths from Class 6 Maths. Once the mind of the student develops an understanding of system of mental mathematics it begins to work more closely with the numbers and become more creative. The students understand the numbers better. Vedic Mathematics is very flexible and creative and appeals to all group of people. It is very easy to understand and practice. It will be of interest to everyone but more so to younger students keen to make their mark in competitive entrance exams. India's past could well help them make it in today's world. It is amazing how with the help of 16 Sutras & 13 sub-sutras, the Vedic seers were able to mentally calculate complex mathematical problems. Download NCERT Books and Offline Apps 2022-23 based on new CBSE Syllabus. Ask your doubts related to NIOS or CBSE Board and share your knowledge with your friends and other users through Discussion Forum. It is the way to improve calculations and make it as fast as possible. Vedic Mathematics is useful for all classes. Standard 6 to standard 12 can use it for quicker computation. PDF for Vedic Mathematics tricks are given for each topic. You can download it for offline use. Keeping books of Vedic Maths is quite comfortable to study it frequently. Vedic Maths Tricks make not only multiplications, divisions but also addition and subtractions also.