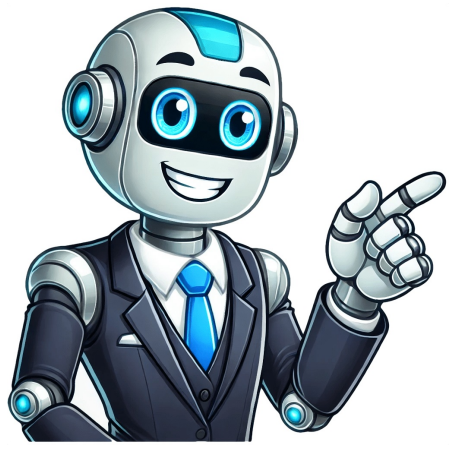


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In UPSC Exam, there have been questions related to poets, saints of Ancient Indian History, Medieval Indian History and that too on foreign travellers from the section of Modern Indian History. Similarly, questions can be asked on the Indian Mathematicians from Ancient Indian to Modern Indian times in IAS Exam.This article will provide you with a list of Indian Mathematicians and their contributions in India.Explore The Ultimate Guide to IAS Exam PreparationDownload The E-Book Now! It is essential to know about the ancient, medieval and modern time Indian mathematicians and their contribution to Science and Mathematics. Ancient Indian mathematicians have contributed immensely to the field of mathematics. The invention of zero is attributed to Indians and this contribution outweighs all other made by any other nation since it is the basis of the decimal number system, without which no advancement in mathematics would have been possible. The number system used today was invented by Indians and it is still called Indo-Arabic numerals because Indians invented them and the Arab merchants took them to the western world.Here we are giving the list of important Indian mathematicians from ancient to modern times.Famous Indian Mathematicians and their Contributions1. BhaskaraHe is also known as Bhaskaracharya.He was born in 1114.He was the one who acknowledged that any number divided by zero is infinity and that the sum of any number and infinity is also infinity.The famous book Siddhanta Siromani was written by him.2. AryabhataHe was born in 476 CE at Kusumapura.He was regarded as the first of the major mathematician-astronomers from the classical age.Aryabhata and Arya-Siddhanta were his known works.He worked on the place value system using letters to signify numbers and stating qualities.He discovered the position of the 9 planets and found that these planets revolve around the sun.He also described the number of days in a year to be 365.3. BrahmaguptaHe was born in 598 CE near present-day Rajasthan.The most important contribution of Brahmagupta to mathematics was introducing the concept and computing methods of zero (0).4. Srinivasa RamanujanHe was born on 1887.His important contributions to this field areHardy-Ramanujan-Littlewood circle method in number theoryRoger-Ramanujan identities in the partition of numbersWork on the algebra of inequalitiesElliptic functionsContinued fractionsPartial sums and products of hypergeometric series.5. P.C. MahalanobisP.C. Mahalanobis was born 1893.He is known forMahalanobis distancFeldman-Mahalanobis model6. Calyampudi Radhakrishna RaoRao was born in 1920.He is a well-known statistician.He is famous for his Theory of estimation.He is known forCramer-Rao boundRao-Blackwell theoremOrthogonal arraysScore test7. D. R. KaprekarD. R. Kaprekar was a recreational mathematician.He discovered several results in number theory, comprising a class of numbers and a constant named after him.8. Satyendranath BoseHe was born in 1894.He is known for his collaboration with Albert Einstein.He is best known for his work on quantum mechanics.He famous contributions areBose-Einstein correlationsBose-Einstein condensateBose-Einstein distributionBose-Einstein statisticsBose-Bose gasPhoton gasIdeal Bose equation of state.9. Shakuntala DeviKnown as the Human Computer she was famous for solving the most complex maths equations without needing calculators.She was famous for setting many world records in mathematics with her superior intellect10. Narendra KarmarkarBest known for his work regarding polynomial algorithms. He is listed as an ISI highly cited researcher.Narendra Karmarkar one of the first provably polynomial time algorithms for linear programming, which is generally referred to as an interior point method. The algorithm is a cornerstone in the field of Linear Programming.Professor of history of science, Doshisha University, Kyoto, Japan. Aryabhata, also called Aryabhata I or Aryabhata the Elder, (born 476, possibly Ashmaka or Kusumapura, India), astronomer and the earliest Indian mathematician whose work and history are available to modern scholars.The first modern equivalent of numeral zero comes from an ancient Indian astronomer and mathematician Brahmagupta in 628. His symbol to depict the numeral was a dot underneath a number.Aspirants can read other related articles linked in the table below:UPSC Preparation: The Republic of India, a country located in South Asia, famous for being the world second most populated country. India has made many contributions to this world, their cuisine, spices, art and literature, textiles, theatre (Bollywood) and so much more. However, some of the greatest contributions have been their contributions in mathematics stretching far back from ancient history to the modern day. The Indian geniuses have made revolutionary changes in the world of mathematics and made advancements and specializations in the world today. Therefore it is important for us to appreciate these fifteen famous Indian mathematicians and find out exactly what they have contributed for us!1. Srinivasa RamanujanRamanujan, the mathematical genius taught himself math after he dropped out of high school due to his failure in the English subject. He is most famously known for his contribution in analytical theory of numbers, elliptic functions, continued fractions and infinite series. He was also invited to England on his set of 120 theorems that he sent to Cambridge. He further made many mathematical demonstrations in his lifetime, all of which are beyond the scope of this article. He taught a greater valuable lesson, that failure isnt permanent as he did not let his failure bring him down and continued to teach himself mathematics, which he was passionate about. He has been the inspiration of many mathematicians, not just in India but all over the world. 2. AryabhataAryabhata from ancient history was actually the first person to figure out that earth was spherical and revolved around the sun, thereby discovering the nine planets and calculating the correct number of days in a year were 365. Therefore it wouldnt be wrong to call him a scientist and an astronomer as well, as far back as the time and mythology suggests.3. Shakuntala DeviThe most famous female Indian mathematician of all time, Shakuntala Devi, was more commonly known as the human computer. She was so called because of her incredible talent to solve calculations without using any calculator. In Dallas she even competed with a computer to give the cube root of 188138517 faster and she won! She went ahead to compete with UNIVAC the worlds fastest computer to solve the 23rd root of a 201 digit number and she won that too! A woman with outstanding talent and outrageous world records!4. D. R. KaprekarDattathreya Ramchandra Kaprekar graduated from the prestigious University of Mumbai and pursued his career as a teacher. He made contributions towards various topics such as magic squares, recurring decimals, integers with special properties and much more. This mathematician even has a constant named after him!5. Narendra KarmarkarKarmarkar graduated from IIT Bombay in electrical engineering and went ahead to proceed with his studies in the U.S. to gain his PhD. He is best known for his work in inventing polynomial algorithms for linear programming. This fine mind crossed overlap between international technology and mathematics to give birth to algorithms.6. Harish-ChandraThe Indian originated American physicist and mathematician is famously known for infinite dimensional group representation theory. He made various contributions throughout his lifetime and has also be awarded with the cole prize by the American mathematical society.7. C. R. RaoC. R. Rao is a mathematical statistician is most famous for theory of estimation. He achieved his masters in mathematics from Andhra University after which he graduated in statistics from Calcutta University. He is also known for his contribution in discovering Cramer-Rao bound and the Rao-Blackwell theorem.8. P. C. MahalanobisPrasanta Chandra Mahalanobis was another well renowned Indian statistician just like Rao. He graduated from university of Cambridge in physics and mathematics. Popular for his work in discovering the D2 statistics (used for divergence based groupings). He was also the founder of Indian Statistical Institute.9. C. S. SeshadriHe graduated from Madras university in mathematics and studied further to gain his PhD from Bombay University. His main contributions are in algebraic geometry. Along with his contributions in geometry he also invented the Seshadri constant and the Narasimha-seshadri constant.10. Satyendra Nath BoseTill this date Bose must be the most famous Indian mathematician, specifically due to his association with the ingenious Albert Einstein. Bose sent his mathematical researches to Einstein and this lead to the discovery of the Bose-Einstein condensate phenomenon.He was rewarded by the Indian government for his contributions.11. C. P. RamanujanBesides his passion in the field of mathematics he also enjoyed spending his leisure time listening to music. This brilliant mind achieved the power of knowledge and worked in the fields of number theory and algebraic geometry. He was eventually elected a fellow of Indian Academy of Sciences.12. BrahmaguptaHe gave four methods of multiplication and his main contribution was the introduction of zero and the fact that zero (0) stood for nothing in the world of mathematics.13. Bhskara IBorn in the district of Mysore, this small town lad grew up to be the shining star. His contributions are mainly his proof of the fact that zero stood for nothing(the idea was initially introduced by Bhramagupta). He made many calculations to prove sq. division, permutation and combination theories. He also proved how the earth appears to be flat even though its a sphere.14. Bhaskara IIBhaskara II so called to avoid any confusion with the first. His work represented significant mathematical and astronomical knowledge. He is most known for his work in calculus and how it is applied to astronomical problems and computations. Not only did he deal with calculus but had vast knowledge over arithmetic, algebra, mathematics of planets and spheres.15. HemachandralHis most significant contribution in mathematics was his initial version of the Fibonacci sequence. He was not only a mathematician but also a scholar, polymath, poet who wrote on grammar, philosophy and contemporary history. Therefore his contributions are not only restricted to math but over all the various different fields that he had mastered over. It is no doubt that the world today is greatly indebted to the contributions made by Indian mathematicians. One of the most important contribution made by them was the introduction of decimal system as well as the invention of zero. Here are some of the famous Indian mathematicians dating back from Indus Valley civilization and Vedas to Modern times.1. AryabhataAryabhata worked on the place value system using letters to signify numbers and stating qualities. He discovered the position of nine planets and stated that these planets revolve around the sun. He also stated the correct number of days in a year that is 365. More on Aryabhata.2. BrahmaguptaThe most significant contribution of Brahmagupta was the introduction of zero(0) to the mathematics which stood for nothing. More on Brahmagupta.3. Srinivasa RamanujanSrinivasa Ramanujan is one of the celebrated Indian mathematicians. His important contributions to the field include Hardy-Ramanujan-Littlewood circle method in number theory, Roger-Ramanujans identities in partition of numbers, work on algebra of inequalities, elliptic functions, continued fractions, partial sums and products of hypergeometric series.More on Ramanujan.4. P.C. MahalanobisPrasanta Chandra Mahalanobis is the founder of Indian Statistical Institute as well as the National Sample Surveys for which he gained international recognition.5. C.R. RaoCalyampudi Radhakrishna Rao, popularly known as C R Rao is a well known statistician, famous for his theory of estimation.6. D. R. KaprekarD. R. Kaprekar discovered several results in number theory, including a class of numbers and a constant named after him. Without any formal mathematical education he published extensively and was very well known in recreational mathematics circle.7. Harish ChandraHarish Chandra is famously known for infinite dimensional group representation theory.8. Satyendranath BoseKnown for his collaboration with Albert Einstein. He is best known for his work on quantum mechanics in the early 1920s, providing the foundation for BoseEinstein statistics and the theory of the BoseEinstein condensate.9. BhskaraBhskara was the one who declared that any number divided by zero is infinity and that the sum of any number and infinity is also infinity. He is also famous for his book Siddhanta Siromani.10. Narendra KarmarkarNarendra Karmarkar is known for his Karmarkars algorithm. He is listed as an highly cited researcher by Institute for Scientific Information. India has been the birthplace of many great minds who have made significant contributions to the world of mathematics. From ancient times to the modern era, Indian mathematicians have played a pivotal role in shaping mathematical thought. Here, we explore the lives and works of some of the most famous Indian mathematicians and their remarkable contributions to the field.1. Aryabhata (476/550 AD)Aryabhata is often regarded as the first of the great mathematicians in the classical age of Indian mathematics and astronomy. Born in Kusumapura (modern-day Patna), Aryabhata made pioneering contributions in various fields of mathematics and astronomy.Contributions:Aryabhata's: His magnum opus, Aryabhata's, is a compilation of mathematics and astronomy that introduced several significant concepts.Place Value System and Zero: Aryabhata is credited with the development of the place value system, and his works laid the foundation for the concept of zero.Approximation of Pi: He approximated the value of Pi as 3.1416, which was remarkably accurate for his time.Trigonometry: Aryabhata's work also included concepts in trigonometry, such as the sine and cosine functions.2. Brahmagupta (598/668 AD)Brahmagupta, born in Ujjain, was another prominent mathematician who made substantial contributions to mathematics and astronomy. His work laid the foundation for the use of zero in arithmetic operations.Contributions:Brahmagupta provided the rules for arithmetic operations involving zero, a concept that is fundamental in modern mathematics. He also revolutionized mathematics.Negative Numbers: He was one of the first to discuss the use of negative numbers and their operations.Quadratic Equations: Brahmagupta provided solutions to quadratic equations and worked extensively on the concept of cyclic quadrilaterals.3. Bhaskara I (600/680 AD)Bhaskara I, a follower of Aryabhata, made significant contributions in the field of mathematics and astronomy. He is known for his work on trigonometry and for his efforts in spreading Aryabhata's mathematical ideas.Contributions:Aryabhata'sAbhashya: Bhaskara I's Aryabhata'sAbhashya is a commentary on Aryabhata's work, where he further explained and expanded upon Aryabhata's concepts.Sine Approximation Formula: He provided an approximation formula for the sine function, which was highly accurate.4. Bhaskara II (1114/1185 AD)Bhaskara II, also known as Bhaskaracharya, was a genius mathematician and astronomer who made extraordinary contributions to both fields. Born in Bijapur, he was the head of the astronomical observatory at Ujjain.Contributions:Lilavati: His famous work Lilavati is a treatise on arithmetic and algebra. It includes problems on topics such as linear equations, quadratic equations, and permutations.Bijaganita: Bhaskara II's Bijaganita focuses on algebra and includes work on solving indeterminate equations and surds.Astronomy: Bhaskara II made significant contributions to astronomy, including concepts related to planetary motion, eclipses, and the heliocentric theory.5. Madhava of Sangamagrama (1340/1425 AD)Madhava of Sangamagrama was a pioneer of mathematical analysis and is credited with founding the Kerala School of Astronomy and Mathematics. His work laid the groundwork for calculus, centuries before it was developed in Europe.Contributions:Infinite Series: Madhava's most notable contribution is the infinite series for trigonometric functions such as sine, cosine, and arctangent.Pi Approximation: He provided an approximation of using an infinite series, which was a precursor to the modern-day concept of calculus.6. Srinivasa Ramanujan (1887/1920)Srinivasa Ramanujan is perhaps the most famous Indian mathematician of the modern era. Despite having little formal training, Ramanujan made extraordinary contributions to mathematical analysis, number theory, and infinite series.Contributions:Ramanujan's Notebooks: His work, compiled in his notebooks, contains thousands of results, many of which were original and highly advanced.Partition Function: Ramanujan developed a highly original approach to the partition function, which has been influential in the study of number theory.Mock Theta Functions: His discovery of mock theta functions opened up new areas of research in mathematics.7. Radhanath Sikkar (1813/1870)Radhanath Sikkar was an Indian mathematician and surveyor who is best known for calculating the height of Mount Everest, which was then known as Peak XV.Contributions:Trigonometric Calculations: Sikkar used trigonometric calculations to determine the height of Mount Everest, a feat that earned him recognition in the history of mathematics and geography.8. Harish-Chandra (1923/1983)Harish-Chandra was a mathematician and physicist who made fundamental contributions to representation theory, a branch of mathematics that deals with abstract algebraic structures.Contributions:Harmonic Analysis: His work in harmonic analysis on semisimple Lie groups is considered foundational and has had a lasting impact on mathematics.9. Calyampudi Radhakrishna Rao (1920/2023)C.R. Rao is a renowned Indian-American mathematician and statistician who made groundbreaking contributions to the field of statistics.Contributions:Cramer-Rao Bound: One of his most famous results is the Cramer-Rao bound, which provides a lower bound on the variance of estimators.Rao-Blackwell Theorem: This theorem, which Rao developed, is a cornerstone of statistical theory.10. Manjul Bhargava (1974/Present)Manjul Bhargava is a contemporary Indian-American mathematician known for his contributions to number theory. He was awarded the Fields Medal in 2014 for his work.Contributions:Higher Composition Laws: Bhargava's work on higher composition laws has expanded the understanding of Gauss composition and related areas in algebraic number theory.Elliptic Curves: His research on elliptic curves and their ranks has opened up new avenues in modern number theory.ConclusionThe contributions of Indian mathematicians have profoundly influenced both ancient and modern mathematics. From the invention of zero to the development of calculus, their work continues to inspire and challenge mathematicians around the world. The rich legacy of these brilliant minds underscores the importance of mathematics in advancing human knowledge and understanding. Some of the world's greatest minds are from India. Because of these incredibly gifted great mathematicians of India who have made the nation proud, India has been a pioneer in every field, from literature and science to art and theatre. The discipline of mathematics continues to be of the utmost importance around the globe. There are two distinct types of people when it comes to math: those who are utterly brilliant at it and those for whom it is nothing less than a nightmare. But if we look at our everyday lives, maths plays a significant role in them. Maths is used in everything, from slicing a cake into equal pieces to weighing people or calculating their height. History of Mathematics in India Indian civilization has been shaped significantly by mathematics for many years. The mathematical concepts that originated on the Indian subcontinent have greatly influenced the rest of the world. There has been a lot of interest in the mathematical systems discovered in Vedic literature. Numerous dates have been assigned to the Vedic works, as is common. It's interesting to note that the mathematics of this era seems to have been developed to address real-world geometric problems, particularly the building of religious altars. List of Great Mathematicians of India in Ancient Period The term "classic period" is frequently used to describe the height of Indian mathematics (400/1600). During this time, mathematicians like Aryabhata, Brahmagupta, Bhaskara I, Mahavira, Bhaskara II, and others expanded and clarified several sections of the subject. The following is a list of their contributions. Aryabhata:In the fifth century, Aryabhata was a mathematician, astronomer, astrologer, and physicist. He was a pioneer in the field of mathematics and demonstrated how to represent numbers using alphabets. Zero was the value used by Aryabhata. It was both a symbol and a concept. Zero was discovered by Aryabhata, who used it to determine the precise distance between the earth and the moon. When zero was discovered, negative numbers were born. Brahmagupta: He was a brilliant astronomer and mathematician (597-668AD). Today, Brahmagupta's contributions to mathematics are more widely recognized than his work in astronomy. He presented the concepts of positive numbers (which he called dhan) and negative numbers (which he called debh). In addition to considering systems of simultaneous equations, Brahmagupta introduced the idea of solving quadratic equations with two variables, Mahavira:Mahavira was born in Karnataka, India, about the year 850. Mahavira developed certain rules for the use of permutations and combinations as one of the contributions. He also provided instructions on how to calculate the cube root of an integer and the volume of a sphere. Bhaskaracharya: Bhaskaracharya was the leading figure of the twelfth century. He was born in the Bijapur town of Karnataka. Siddhanta Siromani, one of his books, is well renowned. The four components are Lilavati (arithmetic), Bejjaganit (algebra), Goladhya (sphere), and Grahaganit (mathematics of planets). Bhaskara created the Chakravat Method, also known as the Cyclic Method, to solve algebraic problems. Read more about the Difference Between Cube and Cuboid. 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He is also credited with discovering the Rao-Blackwell theorem and the Cramer-Rao bound. P.C. Mahalanobis:He founded the Indian Institute of Statistical Science and is also referred to as the "Father of Indian Statistics." He is one of India's top mathematicians thanks to his contributions to statistics, which include the creation of the theory of pilot and large-scale surveys. Manjul Bhargava:One of Bhargava's most important works was a thesis that provided new insight into Gauss's Law for the union of two binary quadratic forms. Also read more about-Courses after 12th Commerce. List of Top 10 Great Mathematicians of India and Their Inventions Here is a list of top 10 great mathematicians of India along with their greatest inventions- Name About Inventions Aryabhata The inventor of the place value system and the first to approximate the value of pi was Aryabhata. Formula: (a + b)² = a² + b² + 2ab Brahmagupta The main contribution of Brahmagupta was the invention of the zero (0), which represented "nothing" in mathematics. Additionally, he included guidelines for computing squares and square roots, as well as an explanation of how to find an integer's cube and cube root. Introduction of the number zero (0). Srinivasa Ramanujan Ramanujan, one of India's best mathematicians, developed the analytical theory of numbers and worked with elliptic functions. First admitted as a Fellow of Trinity College, Cambridge University. Ramanujan was an Indian. The mysteries that the guy who knew infinity solved are still employed to advance the study of mathematics. Properties of the partition function. P.C. Mahalanobis The Mahalanobis Distance was Prasanta Chandra Mahalanobis' most important contribution to statistics. In addition to these, he established the Indian Statistical Institute and conducted groundbreaking research in the field of statistics. 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Formula: (a + b)² = a² + b² + 2ab Brahmagupta The main contribution of Brahmagupta was the invention of the zero (0), which represented "nothing" in mathematics. Additionally, he included guidelines for computing squares and square roots, as well as an explanation of how to find an integer's cube and cube root. Introduction of the number zero (0). Srinivasa Ramanujan Ramanujan, one of India's best mathematicians, developed the analytical theory of numbers and worked with elliptic functions. First admitted as a Fellow of Trinity College, Cambridge University. Ramanujan was an Indian. The mysteries that the guy who knew infinity solved are still employed to advance the study of mathematics. Properties of the partition function. P.C. Mahalanobis The Mahalanobis Distance was Prasanta Chandra Mahalanobis' most important contribution to statistics. In addition to these, he established the Indian Statistical Institute and conducted groundbreaking research in the field of statistics. Aryabhata He was a brilliant astronomer and mathematician who made significant contributions to mathematics and astronomy. He is known for his work on trigonometry and for his efforts in spreading Aryabhata's mathematical ideas. Brahmagupta He was one of the first to discuss the use of negative numbers and their operations. Quadratic Equations: Brahmagupta provided solutions to quadratic equations and worked extensively on the concept of cyclic quadrilaterals.3. Bhaskara I (600/680 AD)Bhaskara I, a follower of Aryabhata, made significant contributions in the field of mathematics and astronomy. He is known for his work on trigonometry and for his efforts in spreading Aryabhata's mathematical ideas. Contributions:Aryabhata'sAbhashya: Bhaskara I's Aryabhata'sAbhashya is a commentary on Aryabhata's work, where he further explained and expanded upon Aryabhata's concepts. Sine Approximation Formula: He provided an approximation formula for the sine function, which was highly accurate.4. Bhaskara II (1114/1185 AD)Bhaskara II, also known as Bhaskaracharya, was a genius mathematician and astronomer who made extraordinary contributions to both fields. Born in Bijapur, he was the head of the astronomical observatory at Ujjain. Contributions:Lilavati: His famous work Lilavati is a treatise on arithmetic and algebra. It includes problems on topics such as linear equations, quadratic equations, and permutations. Bijaganita: Bhaskara II's Bijaganita focuses on algebra and includes work on solving indeterminate equations and surds. Astronomy: Bhaskara II made significant contributions to astronomy, including concepts related to planetary motion, eclipses, and the heliocentric theory.5. Madhava of Sangamagrama (1340/1425 AD)Madhava of Sangamagrama was a pioneer of mathematical analysis and is credited with founding the Kerala School of Astronomy and Mathematics. His work laid the groundwork for calculus, centuries before it was developed in Europe. Contributions: Infinite Series: Madhava's most notable contribution is the infinite series for trigonometric functions such as sine, cosine, and arctangent. Pi Approximation: He provided an approximation of using an infinite series, which was a precursor to the modern-day concept of calculus.6. Srinivasa Ramanujan (1887/1920)Srinivasa Ramanujan is perhaps the most famous Indian mathematician of the modern era. Despite having little formal training, Ramanujan made extraordinary contributions to mathematical analysis, number theory, and infinite series. Contributions: Ramanujan's Notebooks: His work, compiled in his notebooks, contains thousands of results, many of which were original and highly advanced. Partition Function: Ramanujan developed a highly original approach to the partition function, which has been influential in the study of number theory. Mock Theta Functions: His discovery of mock theta functions opened up new areas of research in mathematics.7. Radhanath Sikkar (1813/1870)Radhanath Sikkar was an Indian mathematician and surveyor who is best known for calculating the height of Mount Everest, which was then known as Peak XV. Contributions: Trigonometric Calculations: Sikkar used trigonometric calculations to determine the height of Mount Everest, a feat that earned him recognition in the history of mathematics and geography.8. Harish-Chandra (1923/1983)Harish-Chandra was a mathematician and physicist who made fundamental contributions to representation theory, a branch of mathematics that deals with abstract algebraic structures. Contributions: Harmonic Analysis: His work in harmonic analysis on semisimple Lie groups is considered foundational and has had a lasting impact on mathematics.9. Calyampudi Radhakrishna Rao (1920/2023)C.R. Rao is a renowned Indian-American mathematician and statistician who made groundbreaking contributions to the field of statistics. Contributions: Cramer-Rao Bound: One of his most famous results is the Cramer-Rao bound, which provides a lower bound on the variance of estimators. Rao-Blackwell Theorem: This theorem, which Rao developed, is a cornerstone of statistical theory.10. Manjul Bhargava (1974/Present)Manjul Bhargava is a contemporary Indian-American mathematician known for his contributions to number theory. He was awarded the Fields Medal in 2014 for his work. Contributions: Higher Composition Laws: Bhargava's work on higher composition laws has expanded the understanding of Gauss composition and related areas in algebraic number theory. Elliptic Curves: His research on elliptic curves and their ranks has opened up new avenues in modern number theory. ConclusionThe contributions of Indian mathematicians have profoundly influenced both ancient and modern mathematics. From the invention of zero to the development of calculus, their work continues to inspire and challenge mathematicians around the world. The rich legacy of these brilliant minds underscores the importance of mathematics in advancing human knowledge and understanding. Some of the world's greatest minds are from India. Because of these incredibly gifted great mathematicians of India who have made the nation proud, India has been a pioneer in every field, from literature and science to art and theatre. The discipline of mathematics continues to be of the utmost importance around the globe. There are two distinct types of people when it comes to math: those who are utterly brilliant at it and those for whom it is nothing less than a nightmare. But if we look at our everyday lives, maths plays a significant role in them. Maths is used in everything, from slicing a cake into equal pieces to weighing people or calculating their height. History of Mathematics in India Indian civilization has been shaped significantly by mathematics for many years. The mathematical concepts that originated on the Indian subcontinent have greatly influenced the rest of the world. There has been a lot of interest in the mathematical systems discovered in Vedic literature. Numerous dates have been assigned to the Vedic works, as is common. It's interesting to note that the mathematics of this era seems to have been developed to address real-world geometric problems, particularly the building of religious altars. List of Great Mathematicians of India in Ancient Period The term "classic period" is frequently used to describe the height of Indian mathematics (400/1600). During this time, mathematicians like Aryabhata, Brahmagupta, Bhaskara I, Mahavira, Bhaskara II, and others expanded and clarified several sections of the subject. The following is a list of their contributions. Aryabhata:In the fifth century, Aryabhata was a mathematician, astronomer, astrologer, and physicist. He was a pioneer in the field of mathematics and demonstrated how to represent numbers using alphabets. Zero was the value used by Aryabhata. It was both a symbol and a concept. Zero was discovered by Aryabhata, who used it to determine the precise distance between the earth and the moon. When zero was discovered, negative numbers were born. Brahmagupta: He was a brilliant astronomer and mathematician (597-668AD). Today, Brahmagupta's contributions to mathematics are more widely recognized than his work in astronomy. He presented the concepts of positive numbers (which he called dhan) and negative numbers (which he called debh). In addition to considering systems of simultaneous equations, Brahmagupta introduced the idea of solving quadratic equations with two variables, Mahavira:Mahavira was born in Karnataka, India, about the year 850. Mahavira developed certain rules for the use of permutations and combinations as one of the contributions. He also provided instructions on how to calculate the cube root of an integer and the volume of a sphere. Bhaskaracharya: Bhaskaracharya was the leading figure of the twelfth century. He was born in the Bijapur town of Karnataka. Siddhanta Siromani, one of his books, is well renowned. The four components are Lilavati (arithmetic), Bejjaganit (algebra), Goladhya (sphere), and Grahaganit (mathematics of planets). Bhaskara created the Chakravat Method, also known as the Cyclic Method, to solve algebraic problems. Read more about the Difference Between Cube and Cuboid. 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Bose made important contributions to statistical mechanics, quantum statistics, x-ray diffraction, and the interaction of electromagnetic waves with the ionosphere, as well as the single field theory's explanation of all forces. Collaboration with Albert Einstein, Modern Theoretical Physics in India. Bhaskara Bhaskara was a renowned astronomer and mathematician from ancient India who made important contributions to both astronomy and mathematics. He studied the number system in depth and came up with simple formulas for multiplying and squaring integers, and his significant contributions set the groundwork for mathematics in India. Declared that any number divided by zero is infinity and that the sum of any number and infinity is also infinity. Narendra Karmarkar The Karmarkar's algorithm was developed by Narendra Karmarkar in 1984 to address issues with linear programming. Additionally, he is a highly cited researcher according to ISI. Karmarkar's algorithm Related Articles- Father of Indian Mathematics Due to his extensive contributions to mathematics and his work in the field of mathematical physics, Aryabhata is regarded as the father of Indian mathematicians. He introduced the most widely used quadratic formula, (a + b)² = a² + b² + 2ab. He made significant contributions to astronomy and the calculation of the right number of days in a year. He firmly held to the spherical Earth theory. He played a key role in demonstrating pi's irrationality and made a significant addition to trigonometry by calculating the triangle's surface area. In ancient India, Aryabhata was a superb educator who possessed a wealth of knowledge. He was extremely knowledgeable in science, mathematics, and astronomy. The "Aryabhataiya," a comprehensive treatise he created, addressed a variety of integral topics in mathematics, including trigonometry and algebra. Read more about-GPAAnd the Difference Between Fraction and Rational Number. List of Great Female Mathematicians of India The following is a list of some great female mathematicians of India- 1. Shakuntala Devi:The most prominent female Indian mathematician of all time, Shakuntala Devi, was also referred to as the "human computer." She was given this moniker because she had a remarkable aptitude for maths and could solve problems without a calculator. 2. Sujhata Ramdorai:With Coates, Fukaya, Kato, and Venjakob, she constructed a non-commutative version of the central conjecture of Iwasawa theory, which forms the foundation of most of the field. 3. Neena Gupta:Neena Gupta has been given the DST-ICTP-IMU Ramanujan Prize for Young Mathematicians from Developing Countries. This prize honours her contributions to commutative algebra and affine algebraic geometry. Conclusion As much as we value other facets of Indian culture, such as religion and theatre, we should also remember to pay tribute to the kinds of geniuses who excel in all areas of education and a variety of disciplines. More information about their work is needed in order to give them the credit they merit. Who is the Prince of Indian Mathematics? Who is renowned as the father of Indian mathematics? Who was the first mathematician in India? Ans. Aryabhata was the first mathematician in India. By what name is Shakuntala Deis also called? Which famous Indian mathematician gave Kaprekar's constant? Ans. 6174 is referred to as Kaprekar's constant and given his name to the great mathematician Kaprekar. Who is the greatest mathematician in India? India has produced many great mathematicians throughout history, but the most widely recognized as the greatest mathematician is Srinivasa Ramanujan. He is known for his contributions to number theory, infinite series, and continued fractions. Who are the contributors of Aryabhata to mathematics? Aryabhata was an Indian mathematician who made significant contributions to mathematics. He is credited with introducing the concept of zero, developing the decimal number system, and proposing the heliocentric theory of the solar system. Who is Shakuntala Devi and what was her contribution to mathematics? Shakuntala Devi was an Indian mathematician known as the human computer for her extraordinary mental calculation abilities. She was able to perform complex calculations in her head quickly, and her achievements include correctly multiplying two 13-digit What is the Ramanujan-Hardy number and why is it significant? The Ramanujan-Hardy number, also known as 1729, is a taxicab number that is the smallest number expressible as the sum of two positive cubes in two different ways. This number is significant because it played a role in the collaboration between Srinivasa Who is the first woman mathematician in India? The first woman mathematician in India was Rajeshwari Chatterjee, who made significant contributions to microwave engineering and electromagnetic theory. She was also the first woman to be appointed as a faculty member in the Department of Electrical Comm Show More A look at the key contributions of influential Indian mathematicians including Aryabhata, Brahmagupta, Srinivasa Ramanujan, C.R. Rao and others. Indias contributions to pathbreaking discoveries made by mathematics date back to ancient and medieval times. From formulating geometric principles in the ancient era to pioneering concepts of calculus centuries before Europe,Indian mathematicianslike Ramanujan made profound contributions to mathematical analysis in the modern period.Contemporary Indian mathematicians are expanding frontiers in diverse domains, garnering global recognition, exploring the enduring legacy and monumental contributions of mathematicians from India across different eras, and highlighting their timeless influence on the evolution of mathematical knowledge.List of Famous Indian Mathematicians and their ContributionsThe origins of Indian mathematics date back to the Indus Valley Civilization around3000 BCE. Concepts of geometry, arithmetic, and algebra saw systematic development starting from this period through classical agearound 500 CE. Here is the list of Indian mathematicians and their key contributions:NameKey ContributionsBaudhayana (800 BCE)Books:Ancient Indian mathematical texts like theShrautaSutrasandSulba Sutrascontain early geometric theories and concepts.Notably,theBaudhayana Sulba Sutra(today known as the Pythagorean theorem) was formulated around 1000 BC, centuries before Pythagoras.Katayana (300 BCE) wrote commentaries on Sanskrit grammarand theSulba Sutras. His work ongeometryandPythagorean tripletslaid the foundation for Indian mathematics.Pancha (500 BCE) Developed thebinary number systemandPascals triangle. The former proved fundamental to the development ofmodern computing,while the latter laid the foundation forcombinatorics.Aryabhata (476-529 CE) The most influential mathematician from ancient India who transformedastronomyandmathematics. The computed value ofPiaccurately and properties of trigonometric functions like asine. This improved astronomical calculations. Derivationof the Earth on its axisas caused lunar and solar eclipses, dispelling prevailing myths. Invented one of thefirst decimal number systemsand algorithms for solving algebraic equations.His numeral system and place value system aided complex calculations. Determined theircircumference of the earthwithin 99 miles of actual value through innovative techniques. Book: Aryabhata's(Consolidated Indian mathematics in his seminal work Jt contains astronomy models and arithmetic/algebra methods.Varahamihira (505/587 CE)Eminent astronomer who published major encyclopedias on astronomy, astrology and other sciences.Books: Brihat SamhitaaandPancha SiddhantikaContributions:combinatorics, predicting eclipses, trigonometryand mathematical astrology. Pioneer of theEast Indian school of astronomythat flourished after Aryabhata.Brahmagupta (598/670 CE) Revolutionised arithmetic and algebra in medieval India through his mathematical treatises. Explained rules for operations withnegative numbersandzero, a breakthrough in arithmetic. Derived methods for solving certainindeterminate equationsandquadratic equations. Provided a foundation for developingresidue mathematics, a precursor to modern number theory.Contributed trigonometrywith accurate formulae for triangles, circles, and other shapes.Showed a link between algebra and geometry. Solvedlinear equations using matrices, a milestone in the development of modern linear algebra.Book:Brahma-sputa-SiddhantaBhaskara I (600/680 CE) Built on Aryabhata's work to enrich astronomy and mathematics. Derived an approximation formula for the sine function, improving trigonometric calculations.Book: Mahab