Algebra in Arabic

Algebra in Arabic is a fascinating subject that delves into the historical and contemporary significance of algebra within Arabic culture and its educational frameworks. This article will explore the origins of algebra, its translation and adaptation into the Arabic language, and its role in modern education systems in Arabic-speaking countries. Additionally, we will discuss key concepts and terminologies associated with algebra in Arabic, along with resources for further study. As we navigate through these topics, we will highlight the relevance of algebra in both historical and contemporary contexts, making it an essential area of study for learners and educators alike.

Introduction to Algebra in Arabic

Algebra, known as "□ □ □ □ □ " (al-jabr) in Arabic, is derived from a term that has historical significance, referring to the restoration or completion of broken parts. The Arabic contributions to mathematics, especially algebra, have shaped the way it is taught and understood today. The revival of algebra in the Arabic language can be traced back to the 8th century, where mathematicians like Al-Khwarizmi laid the foundations for what we now recognize as algebraic methods. This section will examine the essence of algebra in the Arabic context and its implications for learners.

Historical Background

The history of algebra in Arabic dates back to the Islamic Golden Age, a period marked by significant advancements in science and mathematics. The word "□ □ □ □ □ " itself originates from Al-Khwarizmi's seminal work, "Al-Kitab al-Mukhtasar fi al-Jabr wal-Muqabala," which translates to "The Compendious Book on Calculation by Completion and Balancing."

Contributions of Al-Khwarizmi

Al-Khwarizmi's contributions to algebra include systematic methods for solving linear and quadratic equations. His work not only introduced algebraic techniques but also emphasized the importance of algorithms, which are foundational to modern mathematics and computer science.

Impact on European Mathematics

The translations of Arabic mathematical texts into Latin in the 12th century played a crucial role in the development of mathematics in Europe. This transfer of knowledge led to the term "algebra" being adopted in various languages, illustrating the profound impact of Arabic scholars on global mathematical practices.

Key Concepts and Terminology

Understanding algebra in Arabic involves familiarizing oneself with key concepts and terminology that are essential for mastering the subject.

Basic Terminology

Some fundamental algebraic terms in Arabic include:

- □ □ □ (□□□ghayyir) - Variable
- □ □ □ □ (□□□dalah) - Equation
- □ (□hadd) - Term
- □ □ □ (□□ mil) - Coefficient
- □ □ (□athr) - Root

Each of these terms plays a critical role in formulating and solving algebraic equations, making them essential for students and educators.

Types of Equations

In Arabic algebra, various types of equations are explored, including:

- □ □ □ □ □ □ (□□ □alat □hatiyyah) - Linear Equations
- □ □ □ □ □ □ □ □ (□□□dalat □□rbi□iyyah) - Quadratic Equations
- □ □ □ □ □ □ □ □ □ □ (□□ □alat □ut□□addidat al-hudud) - Polynomial Equations

Understanding these categories is essential for tackling algebraic problems effectively.

Algebra in Modern Education

Algebra continues to be a vital part of the educational curriculum in Arabic-speaking countries. Its teaching methodologies have evolved, integrating modern technology and pedagogical strategies to enhance learning outcomes.

Curriculum Structure

The structure of algebra in the educational curriculum typically includes:

- Introduction to variables and expressions
- Solving equations and inequalities

- Graphing linear equations
- Exploring functions and their properties
- Working with polynomials and factoring

These elements provide students with a comprehensive understanding of algebraic principles and their applications.

Technological Integration

Many educational institutions have begun incorporating technology into their algebra teaching methods. This includes the use of software and online platforms that offer interactive problem-solving experiences, making the subject more accessible and engaging for students.

Resources for Learning Algebra in Arabic

There are numerous resources available for those interested in learning algebra in Arabic. These resources cater to different learning styles and levels.

Books and Textbooks

Several textbooks are specifically designed for Arabic-speaking students, which cover foundational and advanced algebra concepts. Look for works that align with educational standards in your region.

Online Platforms and Courses

Online platforms provide a wealth of resources, including video tutorials, interactive exercises, and comprehensive courses in algebra. These platforms can significantly enhance the learning experience, offering flexibility and convenience for learners.

Conclusion

Algebra in Arabic is not only a subject of academic importance but also a rich field that reflects the historical contributions of Arab scholars to mathematics. Understanding its terminology, concepts, and applications in modern education can greatly benefit students and educators. As algebra continues to evolve, the integration of technology and innovative teaching methods promises to make this essential branch of mathematics even more engaging for future generations.

Q: What is the origin of the term "algebra" in Arabic?

A: The term "□ □ □ □ □ " (al-jabr) originates from the Arabic mathematician Al-Khwarizmi's work, which focused on completing and balancing equations, laying the foundation for algebra.

Q: Who was Al-Khwarizmi and what were his contributions?

A: Al-Khwarizmi was a 9th-century Persian mathematician whose works introduced systematic algebraic methods and the concept of algorithms, significantly influencing mathematics.

Q: How is algebra taught in Arabic-speaking countries?

A: Algebra is taught through structured curricula that include concepts such as variables, equations, and functions, often supplemented with modern technology and interactive platforms.

Q: What are some common algebraic terms in Arabic?

A: Common algebraic terms include □ □ □ □ □ (mutaghayyir - variable), □ □ □ □ □ □ (mu'□ dalah - equation), (hadd - term).

Q: Are there online resources for learning algebra in Arabic?

A: Yes, numerous online platforms offer courses, tutorials, and exercises specifically designed for learning algebra in Arabic.

Q: What types of equations are studied in Arabic algebra?

A: Students study various types of equations, including □ □ □ □ □ □ □ □ □ □ □ (linear equations) and □ □ □ □ □ □ □ □ □ □ □ (quadratic equations).

Q: Why is algebra important in education?

A: Algebra is essential as it develops critical thinking and problem-solving skills, which are applicable in various fields, including science, engineering, and economics.

Q: What role does technology play in learning algebra in Arabic?

A: Technology enhances algebra learning by providing interactive tools, online resources, and engaging platforms that cater to different learning styles.

Q: How can students improve their algebra skills in Arabic?

A: Students can improve their algebra skills by practicing regularly, utilizing online resources, engaging with study groups, and seeking help from educators when needed.

Q: What is the significance of understanding algebra in today's world?

A: Understanding algebra is crucial for navigating modern life, as it is foundational for advanced mathematics, technical fields, and analytical reasoning required in various careers.

Algebra In Arabic

algebra in arabic: The Development of Arabic Mathematics: Between Arithmetic and Algebra R. Rashed, 2013-04-18 An understanding of developments in Arabic mathematics between the IXth and XVth century is vital to a full appreciation of the history of classical mathematics. This book draws together more than ten studies to highlight one of the major developments in Arabic mathematical thinking, provoked by the double fecondation between arithmetic and the algebra of al-Khwarizmi, which led to the foundation of diverse chapters of mathematics: polynomial algebra, combinatorial analysis, algebraic geometry, algebraic theory of numbers, diophantine analysis and numerical calculus. Thanks to epistemological analysis, and the discovery of hitherto unknown material, the author has brought these chapters into the light, proposes another periodization for classical mathematics, and questions current ideology in writing its history. Since the publication of the French version of these studies and of this book, its main results have been admitted by historians of Arabic mathematics, and integrated into their recent publications. This book is already a vital reference for anyone seeking to understand history of Arabic mathematics, and its contribution to Latin as well as to later mathematics. The English translation will be of particular value to historians and philosophers of mathematics and of science.

algebra in arabic: The Unity of Science in the Arabic Tradition Shahid Rahman, Tony Street, Hassan Tahiri, 2008-07-15 the demise of the logical positivism programme. The answers given to these qu- tions have deepened the already existing gap between philosophy and the history and practice of science. While the positivists argued for a spontaneous, steady and continuous growth of scientific knowledge the post-positivists make a strong case for a fundamental discontinuity in the development of science which can only be explained by extrascientific factors. The political, social and cultural environment, the argument goes on, determine both the questions and the terms in which they should be answered. Accordingly, the sociological and historical interpretation - volves in fact two kinds of discontinuity which are closely related: the discontinuity of science as such and the discontinuity of the more inclusive political and social context of its development. More precisely it explains the discontinuity of the former by the discontinuity of the latter subordinating in effect the history of science to the wider political and social history. The underlying idea is that each historical and - cial context generates scientific and philosophical questions of its own. From this point of view the question surrounding the nature of knowledge and its development are entirely new topics typical of the twentieth-century social context reflecting both the level and the scale of the development of science.

algebra in arabic: The Arithmetica of Diophantus Jean Christianidis, Jeffrey Oaks, 2022-11-01 This volume offers an English translation of all ten extant books of Diophantus of Alexandria’s Arithmetica, along with a comprehensive conceptual, historical, and mathematical commentary. Before his work became the inspiration for the emerging field of number theory in the seventeenth century, Diophantus (ca. 3rd c. CE) was known primarily as an algebraist. This volume explains how his method of solving arithmetical problems agrees both conceptually and procedurally with the premodern algebra later practiced in Arabic, Latin, and European vernaculars, and how this algebra differs radically from the modern algebra initiated by François Viète and René Descartes. It also discusses other surviving traces of ancient Greek algebra and follows the influence of the Arithmetica in medieval Islam, Byzantium, and the European Renaissance down to the 1621 publication of Claude-Gaspard Bachet’s edition. After the English translation the book provides a problem-by-problem commentary explaining the solutions in a manner compatible with Diophantus’s mode of thought. The Arithmetica of Diophantus provides an invaluable resource for historians of mathematics, science, and technology, as well as those studying ancient Greek, medieval Islamic and Byzantine, and Renaissance history. In addition, the volume is also suitable for mathematicians and mathematics educators.

algebra in arabic: *History of Mathematics: General survey of the history of elementary mathematics* David Eugene Smith, 1923

algebra in arabic: Companion Encyclopedia of the History and Philosophy of the

Mathematical Sciences Ivor Grattan-Guinness, 2002-09-11 * Examines the history and philosophy of the mathematical sciences in a cultural context, tracing their evolution from ancient times up to the twentieth century * 176 articles contributed by authors of 18 nationalities * Chronological table of main events in the development of mathematics * Fully integrated index of people, events and topics * Annotated bibliographies of both classic and contemporary sources * Unique coverage of Ancient and non-Western traditions of mathematics

algebra in arabic: The Arabic Contributions to the English Language Garland Hampton Cannon, Alan S. Kaye, 1994 The largest and most up-to-date collection of English words and multiword units borrowed from the Arabic, directly or indirectly, totalling 2338 items. All major dictionaries in English were surveyed, including new-word collections, and college dictionaries.Each dictionary entry gives the fi rst recorded date of the loan in English, the semantic field, variant forms, etymology, the English definitions, derivative forms, and sometimes grammatical comment. The major sources of each entry are noted, along with the approximate degree of assimilation in English. A substantial part of the book is devoted to nontechnical analytical essays, which treat the forty-six semantic areas so as to embrace all disciplines and throw light on the individual subject. Other essays treat the phonological and linguistic aspects of the data, so as to show how languages in contact interact and ultimately influence each other's culture. This is a wide-ranging, innovational book that advances the study of comprehensive borrowing within languages over the centuries.

algebra in arabic: A Concise History of Mathematics Dirk Jan Struik, 1967 This compact, well-written history covers major mathematical ideas and techniques from the ancient Near East to 20th-century computer theory, surveying the works of Archimedes, Pascal, Gauss, Hilbert, and many others. The author's ability as a first-class historian as well as an able mathematician has enabled him to produce a work which is unquestionably one of the best. — Nature.

algebra in arabic: A New English Dictionary on Historical Principles James Augustus Henry Murray, 1888

algebra in arabic: *A New English Dictionary on Historical Principles: part 1. A (1888)* James Augustus Henry Murray, 1888

algebra in arabic: Reader's Guide to the History of Science Arne Hessenbruch, 2013-12-16 The Reader's Guide to the History of Science looks at the literature of science in some 550 entries on individuals (Einstein), institutions and disciplines (Mathematics), general themes (Romantic Science) and central concepts (Paradigm and Fact). The history of science is construed widely to include the history of medicine and technology as is reflected in the range of disciplines from which the international team of 200 contributors are drawn.

algebra in arabic: Encyclopedic Dictionary of Mathematics Nihon Sūgakkai, 1993 V.1. A.N. v.2. O.Z. Apendices and indexes.

algebra in arabic: The History of Mathematics Roger L. Cooke, 2012-11-08 Praise for the Second Edition An amazing assemblage of worldwide contributions in mathematics and, in addition to use as a course book, a valuable resource . . . essential. —CHOICE This Third Edition of The History of Mathematics examines the elementary arithmetic, geometry, and algebra of numerous cultures, tracing their usage from Mesopotamia, Egypt, Greece, India, China, and Japan all the way to Europe during the Medieval and Renaissance periods where calculus was developed. Aimed primarily at undergraduate students studying the history of mathematics for science, engineering, and secondary education, the book focuses on three main ideas: the facts of who, what, when, and where major advances in mathematics took place; the type of mathematics involved at the time; and the integration of this information into a coherent picture of the development of mathematics. In addition, the book features carefully designed problems that guide readers to a fuller understanding of the relevant mathematics and its social and historical context. Chapter-end exercises, numerous photographs, and a listing of related websites are also included for readers who wish to pursue a specialized topic in more depth. Additional features of The History of Mathematics, Third Edition include: Material arranged in a chronological and cultural context Specific parts of the history of mathematics presented as individual lessons New and revised exercises ranging between technical,

factual, and integrative Individual PowerPoint presentations for each chapter and a bank of homework and test questions (in addition to the exercises in the book) An emphasis on geography, culture, and mathematics In addition to being an ideal coursebook for undergraduate students, the book also serves as a fascinating reference for mathematically inclined individuals who are interested in learning about the history of mathematics.

algebra in arabic: *Science* , 1912 Vols. for 1911-13 contain the Proceedings of the Helminothological Society of Washington, ISSN 0018-0120, 1st-15th meeting.

algebra in arabic: *Encyclopaedia of the History of Science, Technology, and Medicine in Non-Westen Cultures* Helaine Selin, 1997-07-31 The Encyclopaedia fills a gap in both the history of science and in cultural stud ies. Reference works on other cultures tend either to omit science completely or pay little attention to it, and those on the history of science almost always start with the Greeks, with perhaps a mention of the Islamic world as a trans lator of Greek scientific works. The purpose of the Encyclopaedia is to bring together knowledge of many disparate fields in one place and to legitimize the study of other cultures' science. Our aim is not to claim the superiority of other cultures, but to engage in a mutual exchange of ideas. The Western aca demic divisions of science, technology, and medicine have been united in the Encyclopaedia because in ancient cultures these disciplines were connected. This work contributes to redressing the balance in the number of reference works devoted to the study of Western science, and encourages awareness of cultural diversity. The Encyclopaedia is the first compilation of this sort, and it is testimony both to the earlier Eurocentric view of academia as well as to the widened vision of today. There is nothing that crosses disciplinary and geographic boundaries, dealing with both scientific and philosophical issues, to the extent that this work does. xi PERSONAL NOTE FROM THE EDITOR Many years ago I taught African history at a secondary school in Central Africa.

algebra in arabic: *Nicolas Chuquet, Renaissance Mathematician* Graham Flegg, C. Hay, B. Moss, 2012-12-06 My attention was first drawn to Chuquet' s mathematical manuscript whilst undertaking the necessary research for the preparation of the Open University's History of Mathematics course, presented initially in 1974. It was whilst editing the English edition of Math~matiques et Math~maticiens (P. Dedron and J. Itard, trans. J. Field) that I noted that it was stated that the whole manuscript -- comprises 324 folios, i. e. 648 pages, and that, in addition to the Triparty (by which the work is generally known) the manuscript includes sections on problems, on the application of algebraic methods to geometry, and on conunercial

algebra in arabic: Word Origins John Ayto, 2009-01-01 The average contemporary English speaker knows 50,000 words. Yet stripped down to its origins, this apparently huge vocabulary is in reality much smaller, derived from Latin, French and the Germanic languages. It is estimated that every year, 800 neologisms are added to the English language: acronyms (nimby), blended words (motel), and those taken from foreign languages (savoir-faire). Laid out in an A-Z format with detailed cross references, and written in a style that is both authoritative and accessible, Word Origins is a valuable historical guide to the English language.

algebra in arabic: Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures Helaine Selin, 2008-03-12 Here, at last, is the massively updated and augmented second edition of this landmark encyclopedia. It contains approximately 1000 entries dealing in depth with the history of the scientific, technological and medical accomplishments of cultures outside of the United States and Europe. The entries consist of fully updated articles together with hundreds of entirely new topics. This unique reference work includes intercultural articles on broad topics such as mathematics and astronomy as well as thoughtful philosophical articles on concepts and ideas related to the study of non-Western Science, such as rationality, objectivity, and method. You'll also find material on religion and science, East and West, and magic and science.

algebra in arabic: *The Contribution of the Arabs to Education* Khalil Totah, 1926

algebra in arabic: THE ENCYCLOPAEDIC DICTIONARY , 1896

algebra in arabic: Handbook of the History and Philosophy of Mathematical Practice

Bharath Sriraman, 2024-04-26 The purpose of this unique handbook is to examine the transformation of the philosophy of mathematics from its origins in the history of mathematical practice to the present. It aims to synthesize what is known and what has unfolded so far, as well as to explore directions in which the study of the philosophy of mathematics, as evident in increasingly diverse mathematical practices, is headed. Each section offers insights into the origins, debates, methodologies, and newer perspectives that characterize the discipline today. Contributions are written by scholars from mathematics, history, and philosophy – as well as other disciplines that have contributed to the richness of perspectives abundant in the study of philosophy today – who describe various mathematical practices throughout different time periods and contrast them with the development of philosophy. Editorial Advisory Board Andrew Aberdein, Florida Institute ofTechnology, USA Jody Azzouni, Tufts University, USA Otávio Bueno, University of Miami, USA William Byers, Concordia University, Canada Carlo Cellucci, Sapienza University of Rome, Italy Chandler Davis, University of Toronto, Canada (1926-2022) Paul Ernest, University of Exeter, UK Michele Friend, George Washington University, USA Reuben Hersh, University of New Mexico, USA (1927-2020) Kyeong-Hwa Lee, Seoul National University, South Korea Yuri Manin, Max Planck Institute for Mathematics, Germany (1937-2023) Athanase Papadopoulos, University of Strasbourg, France Ulf Persson, Chalmers University of Technology, Sweden John Stillwell, University of San Francisco, USA David Tall, University of Warwick, UK (1941-2024) This book with its exciting depth and breadth, illuminates us about the history, practice, and the very language of our subject; about the role of abstraction, ofproof and manners of proof; about the interplay of fundamental intuitions; about algebraic thought in contrast to geometric thought. The richness of mathematics and the philosophy encompassing it is splendidly exhibited over the wide range of time these volumes cover---from deep platonic and neoplatonic influences to the most current experimental approaches. Enriched, as well, with vivid biographies and brilliant personal essays written by (and about) people who play an important role in our tradition, this extraordinary collection of essays is fittingly dedicated to the memory of Chandler Davis, Reuben Hersh, and Yuri Manin. ---Barry Mazur, Gerhard Gade University Professor, Harvard University This encyclopedic Handbook will be a treat for all those interested in the history and philosophy of mathematics. Whether one is interested in individuals (from Pythagoras through Newton and Leibniz to Grothendieck), fields (geometry, algebra, number theory, logic, probability, analysis), viewpoints (from Platonism to Intuitionism), or methods (proof, experiment, computer assistance), the reader will find a multitude of chapters that inform and fascinate. ---John Stillwell, Emeritus Professor of Mathematics, University of San Francisco; Recipient of the 2005 Chauvenet Prize Dedicating a volume to the memory of three mathematicians – Chandler Davis, Reuben Hersh, and Yuri Manin –, who went out of their way to show to a broader audience that mathematics is more than what they might think, is an excellent initiative. Gathering authors coming from many different backgrounds but who are very strict about the essays they write was successfully achieved by the editor-in-chief. The result: a great source of potential inspiration! ---Jean-Pierre Bourguignon; Nicolaas Kuiper Honorary Professor at the Institut des Hautes Études Scientifiques

Related to algebra in arabic

Algebra - Wikipedia Elementary algebra is the main form of algebra taught in schools. It examines mathematical statements using variables for unspecified values and seeks to determine for which values the

Introduction to Algebra - Math is Fun Algebra is just like a puzzle where we start with something like "x − 2 = 4" and we want to end up with something like "x = 6". But instead of saying " obviously x=6", use this neat step-by-step

Algebra 1 | Math | Khan Academy The Algebra 1 course, often taught in the 9th grade, covers Linear equations, inequalities, functions, and graphs; Systems of equations and inequalities; Extension of the concept of a

Algebra - What is Algebra? | Basic Algebra | Definition | Meaning, Algebra deals with

Arithmetical operations and formal manipulations to abstract symbols rather than specific numbers. Understand Algebra with Definition, Examples, FAQs, and more

Algebra in Math - Definition, Branches, Basics and Examples This section covers key algebra concepts, including expressions, equations, operations, and methods for solving linear and quadratic equations, along with polynomials

Algebra | History, Definition, & Facts | Britannica What is algebra? Algebra is the branch of mathematics in which abstract symbols, rather than numbers, are manipulated or operated with arithmetic. For example, x + y = z or b -

Algebra Problem Solver - Mathway Free math problem solver answers your algebra homework questions with step-by-step explanations

Algebra - Pauls Online Math Notes Preliminaries - In this chapter we will do a quick review of some topics that are absolutely essential to being successful in an Algebra class. We review exponents (integer

How to Understand Algebra (with Pictures) - wikiHow Algebra is a system of manipulating numbers and operations to try to solve problems. When you learn algebra, you will learn the rules to follow for solving problems

Algebra Homework Help, Algebra Solvers, Free Math Tutors I quit my day job, in order to work on algebra.com full time. My mission is to make homework more fun and educational, and to help people teach others for free

Algebra - Wikipedia Elementary algebra is the main form of algebra taught in schools. It examines mathematical statements using variables for unspecified values and seeks to determine for which values the

Introduction to Algebra - Math is Fun Algebra is just like a puzzle where we start with something like "x − 2 = 4" and we want to end up with something like "x = 6". But instead of saying " obviously x=6", use this neat step-by-step

Algebra 1 | Math | Khan Academy The Algebra 1 course, often taught in the 9th grade, covers Linear equations, inequalities, functions, and graphs; Systems of equations and inequalities; Extension of the concept of a

Algebra - What is Algebra? | Basic Algebra | Definition | Meaning, Algebra deals with Arithmetical operations and formal manipulations to abstract symbols rather than specific numbers. Understand Algebra with Definition, Examples, FAQs, and more

Algebra in Math - Definition, Branches, Basics and Examples This section covers key algebra concepts, including expressions, equations, operations, and methods for solving linear and quadratic equations, along with polynomials and

Algebra | History, Definition, & Facts | Britannica What is algebra? Algebra is the branch of mathematics in which abstract symbols, rather than numbers, are manipulated or operated with arithmetic. For example, x + y = z or b -

Algebra Problem Solver - Mathway Free math problem solver answers your algebra homework questions with step-by-step explanations

Algebra - Pauls Online Math Notes Preliminaries - In this chapter we will do a quick review of some topics that are absolutely essential to being successful in an Algebra class. We review exponents (integer and

How to Understand Algebra (with Pictures) - wikiHow Algebra is a system of manipulating numbers and operations to try to solve problems. When you learn algebra, you will learn the rules to follow for solving problems

Algebra Homework Help, Algebra Solvers, Free Math Tutors I quit my day job, in order to work on algebra.com full time. My mission is to make homework more fun and educational, and to help people teach others for free

Related to algebra in arabic

Doing the math in Arabic (Zawya12y) Dubai Week three of my Arabic adventure starts with a maths lesson. At least, that’s how it looks when the tutor writes on the white board 25÷4=5. But no such luck - I was always pretty good at maths

Doing the math in Arabic (Zawya12y) Dubai Week three of my Arabic adventure starts with a maths lesson. At least, that’s how it looks when the tutor writes on the white board 25÷4=5. But no such luck - I was always pretty good at maths

Polynomials and equations in arabic algebra (JSTOR Daily1y) This is a preview. Log in through your library . Abstract It is shown in this article that the two sides of an equation in the medieval Arabic algebra are aggregations of the algebraic "numbers"

Polynomials and equations in arabic algebra (JSTOR Daily1y) This is a preview. Log in through your library . Abstract It is shown in this article that the two sides of an equation in the medieval Arabic algebra are aggregations of the algebraic "numbers"

Ivy League professor kicked off plane for writing 'Arabic symbols,' aka math equations (AOL9y) A decorated professor of economics at the University of Pennsylvania was surprised when American Airlines pilots whisked him off of the delayed flight he had been

Ivy League professor kicked off plane for writing 'Arabic symbols,' aka math equations (AOL9y) A decorated professor of economics at the University of Pennsylvania was surprised when American Airlines pilots whisked him off of the delayed flight he had been

Back to Home: http://www.speargroupllc.com