International Mathematics Olympiad

Mathematical Olympiad Challenges is a rich collection of problems put together by two experienced and well-known professors and coaches of the U.S. International Mathematical Olympiad Team. Hundreds of beautiful, challenging, and instructive problems from algebra, geometry, trigonometry, combinatorics, and number theory were selected from numerous mathematical competitions and journals. An important feature of the work is the comprehensive background material provided with each grouping of problems. The problems are clustered by topic into self-contained sections with solutions provided separately. All sections start with an essay discussing basic facts and one or two representative examples. A list of carefully chosen problems follows and the reader is invited to take them on. Additionally, historical insights and asides are presented to stimulate further inquiry. The emphasis throughout is on encouraging readers to move away from routine exercises and memorized algorithms toward creative solutions to open-ended problems. Aimed at motivated high school and beginning college students and instructors, this work can be used as a text for advanced problem- solving courses, for self-study, or as a resource for teachers and students training for mathematical competitions and for teacher professional development, seminars, and workshops.

The International Mathematical Olympiad competition is held every year with the final taking place in a different country. The final consists of a two day exam with the contestants being challenged to solve three difficult problems each day. This book contains the questions from the finals taking place between 1986 and 1999 inclusive. For each problem the author has included at least one solution and often remarks about alternative approaches and the significance of the problem. Many of the solutions are derived from answers given by contestants rather than the organisers as these were often the most elegant solutions. This collection will be of great value to students preparing for the IMO and to all others who are interested in problem solving in mathematics.

50th IMO - 50 Years of International Mathematical OlympiadsSpringer Science & Business Media

The Mathematical Olypiad books, covering the USA Mathematical Olypiad (USAMO) and the International Mathematical Olypiad (IMO), have been published annually by the MAA American Mathematics Competitions since 1976. This is the sixth volume in that series published by the MAA in its Problem Book series. The IMO is the work mathematics championship for high school students. It takes place annually in a different country each year. The aims of the IMO are (1) to discover, encourage and challenge mathematically gifted young people in all countries; (2) to foster friendships between mathematicians around the world; (3) to create an opportunity for the exchange of information on school syllabi and practice throughout the world. The USAMO and the Team Selection Test (TST) are the last two stages of the

selection process for the United states of America IMO team. The preceding examinations are the AMC 10 or AMC12 and the American Invitational Mathematics Examination (AIME). Participation in the AIME, USAMO, and the TST is by invitation only, based on performance in the preceding exams of the sequence. Through the AMC contests and the IMO, young gifted mathematicians are identified and recognized while they are still in secondary school. Participation in the competitions provides them with the chance to measure themselves against other exceptional students from all over the world. This work was prepared by Zuming Feng, Melanie Matchett Wood, the Leader and Deputy Leader of the 2004 USA IMO team, and by Cecil Rousseau, the chair of the USAMO Committee. In addition to presenting their own carefully written solutions to the problems, Zuming and Melanie provide remarkable solutions developed by the examination committees, contestants, and experts, during or after the contests. They also provide a detailed report of the 2000 2004 USAMO/IMO results and a comprehensive guide to other material that emphasize advances problem-solving. This collection of excellent problems and beautiful solutions is a valuable companion for students who wish to develop their interest in mathematics outside the school curriculum and to deepen their knowledge of mathematics.

In July 2009 Germany hosted the 50th International Mathematical Olympiad (IMO). For the very first time the number of participating countries exceeded 100, with 104 countries from all continents. Celebrating the 50th anniversary of the IMO provides an ideal opportunity to look back over the past five decades and to review its development to become a worldwide event. This book is a report about the 50th IMO as well as the IMO history. A lot of data about all the 50 IMOs are included. We list the most successful contestants, the results of the 50 Olympiads and the 112 countries that have ever taken part. It is impressive to see that many of the world’s leading research mathematicians were among the most successful IMO participants in their youth. Six of them gave presentations at a special celebration: Bollobás, Gowers, Lovász, Smirnov, Tao and Yoccoz. This book is aimed at students in the IMO age group and all those who have interest in this worldwide leading competition for highschool students.

The International Mathematical Olympiad (IMO) is a competition for high school students. China has taken part in the IMO 21 times since 1985 and has won the top ranking for countries 14 times, with a multitude of golds for individual students. The six students China has sent every year were selected from 20 to 30 students among approximately 130 students who took part in the annual China Mathematical Competition during the winter months. This volume of comprises a collection of original problems with solutions that China used to train their Olympiad team in the years from 2009 to 2010. Mathematical Olympiad problems with solutions for the years 2002OCo2008 appear in an earlier volume, Mathematical Olympiad in China."

Olympiad mathematics is not a collection of techniques of solving mathematical problems but a system for advancing

mathematical education. This book is based on the lecture notes of the mathematical Olympiad training courses conducted by the author in Singapore. Its scope and depth not only covers and exceeds the usual syllabus, but introduces a variety concepts and methods in modern mathematics. In each lecture, the concepts, theories and methods are taken as the core. The examples are served to explain and enrich their intension and to indicate their applications. Besides, appropriate number of test questions is available for reader''s practice and testing purpose. Their detailed solutions are also conveniently provided. The examples are not very complicated so that readers can easily understand. There are many real competition questions included which students can use to verify their abilities. These test questions are from many countries, e.g. China, Russia, USA, Singapore, etc. In particular, the reader can find many questions from China, if he is interested in understanding mathematical Olympiad in China. This book serves as a useful textbook of mathematical Olympiad courses, or as a reference book for related teachers and researchers. Errata(s). Errata. Sample Chapter(s). Lecture 1: Operations on Rational Numbers (145k). Request Inspection Copy. Contents: .: Operations on Rational Numbers; Linear Equations of Single Variable; Multiplication Formulae; Absolute Value and Its Applications; Congruence of Triangles; Similarity of Triangles; Divisions of Polynomials; Solutions to Testing Questions; and other chapters. Readership: Mathematics students, school teachers, college lecturers, university professors; mathematics enthusiasts

110 Geometry Problems for the International Mathematical Olympiads represents a collection of carefully selected geometry problems designed for passionate geometers and students preparing for the IMO. Assuming the theory and the techniques presented in 106 and 107, the book presents a multitude of beautiful synthetic solutions that are meant to give a sense of how one should think about difficult geometry problems. On average, each problem comes with at least two such solutions and with additional remarks about the underlying configuration.

The Mathematical Olympiad examinations, covering the USA Mathematical Olympiad (USAMO) and the International Mathematical Olympiad (IMO), have been published annually by the MAA American Mathematics Competitions since 1976. The IMO is the world mathematics championship for high school students. It takes place annually in a different country. The IMO competitions help to discover, encourage and challenge mathematically gifted young people all over the world. The USAMO and the Team Selection Test (TST) are the last two stages of the selection process leading to representing the United States of America in the IMO. The preceding examinations are the AMC 10 or AMC 12 and the American Invitational Mathematics Examination (AIME). Participation in the AIME, USAMO, and the TST is by invitation only, based on performance in the preceding exams of the sequence. Through the AMC contests and the IMO, young gifted mathematicians are identified and recognized while they are still in secondary school. Participation in these competitions provides them with the chance to measure themselves against other exceptional students from all over the world. Editors, Andreescu and Feng provide remarkable solutions developed by the examination committees, contestants, and experts, during or after the contests. They also provide a detailed report of the

1995-2000 USAMO/IMO results, and a comprehensive guide to other materials emphasizing advanced problem-solving. This collection of excellent problems and beautiful solutions is a valuable companion for students who wish to develop their interest in mathematics outside the school curriculum and to deepen their knowledge of mathematics.

Introduction to Math Olympiad Problems aims to introduce high school students to all the necessary topics that frequently emerge in international Math Olympiad competitions. In addition to introducing the topics, the book will also provide several repetitive-type guided problems to help develop vital techniques in solving problems correctly and efficiently. The techniques employed in the book will help prepare students for the topics they will typically face in an Olympiad-style event, but also for future college mathematics courses in Discrete Mathematics, Graph Theory, Differential Equations, Number Theory and Abstract Algebra. Features: Numerous problems designed to embed good practice in readers, and build underlying reasoning, analysis and problem-solving skills Suitable for advanced high school students preparing for Math Olympiad competitions

This is a challenging problem-solving book in Euclidean geometry, assuming nothing of the reader other than a good deal of courage. Topics covered included cyclic quadrilaterals, power of a point, homothety, triangle centers; along the way the reader will meet such classical gems as the nine-point circle, the Simson line, the symmedian and the mixtilinear incircle, as well as the theorems of Euler, Ceva, Menelaus, and Pascal. Another part is dedicated to the use of complex numbers and barycentric coordinates, granting the reader both a traditional and computational viewpoint of the material. The final part consists of some more advanced topics, such as inversion in the plane, the cross ratio and projective transformations, and the theory of the complete quadrilateral. The exposition is friendly and relaxed, and accompanied by over 300 beautifully drawn figures. The emphasis of this book is placed squarely on the problems. Each chapter contains carefully chosen worked examples, which explain not only the solutions to the problems but also describe in close detail how one would invent the solution to begin with. The text contains a selection of 300 practice problems of varying difficulty from contests around the world, with extensive hints and selected solutions. This book is especially suitable for students preparing for national or international mathematical olympiads or for teachers looking for a text for an honor class.

The famed International Mathematical Olympiad has been challenging students worldwide for over 40 years. Since the first competition in Romania in 1959 - with only seven countries participating - it has expanded to attract competitors from over 80 countries, representing all five continents. This third volume features every question from 1991-2004, along with comprehensive solutions and multiple answers where applicable. A fantastic selection of mathematical puzzles, this fully updated three-volume series will be of interest to serious mathematicians and enthusiasts alike. Istvan Reiman's compilation of logic puzzles and questions will tease the intellect of all those with a mathematical mind. Istvan Reiman was formerly Leader of the Chair of Geometry at the Budapest University of Technology. He has been guiding the Youth Mathematical Circle of the J Bolyai Mathematical Society and directing the preparation of Hungarian students for the annual International Maths Olympiad for 40 years.

The book 'International Mathematics Olympiad' has been divided into five sections namely Mathematics, Logical Reasoning, Achievers section, Subjective section, and Model Papers. In every chapter, the theory has been explained through solved examples, illustrations and diagrams wherever required. To enhance the problem solving skills of candidates Multiple Choice Questions (MCQs) with detailed solutions are provided in the end of each chapter. The questions in the Achievers' section are set to evaluate the mathematical skills of brilliant students while the subjective section includes questions of descriptive nature. Two Model Papers have been included for practice purpose. A

CD containing Study Chart for systematic preparation, Tips & Tricks to crack Maths Olympiad, Pattern of exam, and links of Previous Years Papers is accompanied with this book. #v&spublishers

This is the ultimate collection of challenging high-school-level mathematics problems. It is the result of a two year long collaboration to rescue these problems from old and scattered manuscripts, and produce the definitive source of IMO practice problems in book form for the first time. This book attempts to gather all the problems and solutions appearing on the IMO and contains a grand total of 1900 problems. It is an invaluable resource for high-school students preparing for mathematics competitions, and for anyone who loves math.

See also A SECOND STEP TO MATHEMATICAL OLYMPIAD PROBLEMS The International Mathematical Olympiad (IMO) is an annual international mathematics competition held for pre-collegiate students. It is also the oldest of the international science olympiads, and competition for places is particularly fierce. This book is an amalgamation of the first 8 of 15 booklets originally produced to guide students intending to contend for placement on their country's IMO team. The material contained in this book provides an introduction to the main mathematical topics covered in the IMO, which are: Combinatorics, Geometry and Number Theory. In addition, there is a special emphasis on how to approach unseen questions in Mathematics, and model the writing of proofs. Full answers are given to all questions. Though A First Step to Mathematical Olympiad Problems is written from the perspective of a mathematician, it is written in a way that makes it easily comprehensible to adolescents. This book is also a must-read for coaches and instructors of mathematical competitions.

This is the third volume of problems that cover the USA Mathematical Olympiad (USAMO) and the International Mathematical Olympiad (IMO) to be published by the MAA in its Problem Book series. The aims of the IMO are: to discover, encourage and challenge mathematically gifted young people in all countries; to foster friendships between mathematicians around the world; and to create an opportunity for the exchange of information on school syllabi and practice throughout the world. The USAMO and the Team Selection Test (TST) are the last two stages of the selection process leading to representing the USA in the IMO. The preceding examinations are the AMC 10 or AMC 12 and the American Invitational Mathematics Examination (AIME). Participation in the AIME, USAMO, and the TST is by invitation only, based on performance in the preceding exams of the sequence. All of these contests identify and recognize young gifted mathematicians while they are still in secondary school. Participation in these competitions provides them with the chance to measure themselves against other exceptional students from all over the world.

Ravi Vakil, described in the San Francisco Chronicle as “a legend in the world of math competitions” has finally released his long-awaited second edition of A Mathematical Mosaic: Patterns & Problem Solving. Regarded by many as a seminal book in the field of mathematics competitions, the first edition of A Mathematical Mosaic has received wide acclaim from mathematics teachers, professors and the mathematics community at large. In a review in The Mathematics Teacher, high school teacher John Cocharo wrote, “Without a doubt, this book is a must for any library, teacher's reference or student's amusement.” André Toom in his review in the Mathematical Monthly observed, “[A Mathematical Mosaic] speaks in an interesting and understandable way about number theory, combinatorics, game theory, geometry, and calculus, to say nothing about magic tricks, puzzles and other digressions. What is most important is that whenever Vakil starts to discuss something, he never leaves the reader without a piece of exact, rigorous knowledge.”

Follows six American high school students on the quest for glory in the Olympics of math competitions--The International

Mathematical Olympiad.

The book contains problems from the first 32 British Mathematical Olympiad (BMO) papers 1965-96 and gives hints and outline solutions to each problem from 1975 onwards. An overview is given of the basic mathematical skills needed, and a list of books for further reading is provided. Working through the exercises provides a valuable source of extension and enrichment for all pupils and adults interested in mathematics.

The thoroughly Revised & Updated 3rd Edition of “Olympiad Champs Mathematics Class 5 with Past Olympiad Questions” is a complete preparatory book not only for Olympiad but also for Class 5 Mathematics. The book is prepared on content based on National Curriculum Framework prescribed by NCERT. This new edition has been empowered with Past Questions from various Olympiad Exams like IMO, IOM, GTSE, etc. in both the exercises of every chapter. Further the book Provides engaging content with the help of Teasers, Do You Know, Amazing Facts & Illustrations, which enriches the reading experience for the children. The questions are divided into two levels Level 1 and Level 2. The first level, Level 1, is the beginner’s level which comprises of questions like fillers, analogy and odd one out. The second level is the advanced level. Level 2 comprises of techniques like matching, chronological sequencing, picture, passage and feature based, statement correct/ incorrect, integer based, puzzle, grid based, crossword, Venn diagram, table/ chart based and much more. Solutions and explanations are provided for all questions.

"The IMO Compendium" is the ultimate collection of challenging high-school-level mathematics problems and is an invaluable resource not only for high-school students preparing for mathematics competitions, but for anyone who loves and appreciates mathematics. The International Mathematical Olympiad (IMO), nearing its 50th anniversary, has become the most popular and prestigious competition for high-school students interested in mathematics. Only six students from each participating country are given the honor of participating in this competition every year. The IMO represents not only a great opportunity to tackle interesting and challenging mathematics problems, it also offers a way for high school students to measure up with students from the rest of the world. Until the first edition of this book appearing in 2006, it has been almost impossible to obtain a complete collection of the problems proposed at the IMO in book form. "The IMO Compendium" is the result of a collaboration between four former IMO participants from Yugoslavia, now Serbia and Montenegro, to rescue these problems from old and scattered manuscripts, and produce the ultimate source of IMO practice problems. This book attempts to gather all the problems and solutions appearing on the IMO through 2009. This second edition contains 143 new problems, picking up where the 1959-2004 edition has left off.

The famed International Mathematical Olympiad has been challenging students worldwide for over 40 years. Since the first competition in Romania in 1959 - with only seven countries participating - it has expanded to attract competitors from over 80 countries, representing all five continents. This second volume features every question from 1976-90, along with comprehensive solutions and multiple answers where applicable. A fantastic selection of mathematical puzzles, this fully updated three volume series will be of interest to serious mathematicians and enthusiasts alike. Istvan Reiman's compilation of logic puzzles and questions will tease the intellect of all those with a mathematical mind. Istvan Reiman was formerly Leader of the Chair of

Geometry at the Budapest University of Technology. He has been guiding the Youth Mathematical Circle of the J Bolyai Mathematical Society and directing the preparation of Hungarian students for the annual International Maths Olympiad for 40 years.

"102 Combinatorial Problems" consists of carefully selected problems that have been used in the training and testing of the USA International Mathematical Olympiad (IMO) team. Key features: * Provides in-depth enrichment in the important areas of combinatorics by reorganizing and enhancing problem-solving tactics and strategies * Topics include: combinatorial arguments and identities, generating functions, graph theory, recursive relations, sums and products, probability, number theory, polynomials, theory of equations, complex numbers in geometry, algorithmic proofs, combinatorial and advanced geometry, functional equations and classical inequalities The book is systematically organized, gradually building combinatorial skills and techniques and broadening the student's view of mathematics. Aside from its practical use in training teachers and students engaged in mathematical competitions, it is a source of enrichment that is bound to stimulate interest in a variety of mathematical areas that are tangential to combinatorics.

Suitable for high school students with high mathematics ability and people above high school level. High school students with higher mathematics ability should learn more in-depth Mathematical Olympiad topics through independent learning methods to further improve their mathematics level, which is conducive to studying university subjects in the future.

Various institutes and associations across the country conduct Mathematics Olympiads & Competitions for Class 4 students. This specialized book has been designed to provide relevant and the best study material for the preparation for Class 4 students preparing for Mathematics Olympiads and competitions. This book has been designed to give the students an insight and proficiency into almost all the areas of mathematics asked in various Mathematics Olympiads. The present book has been divided into 11 chapters namely Knowing Our Numbers, Operations on Numbers, Factors & Multiples, Fractions & Decimals, Time & Calendar, Money, Measurement, Geometry, Area & Perimeter, Pattern and Data Handling. The book contains complete theory exactly on the pattern of various Mathematics Olympiads with sufficient number of solved examples set according to the pattern and level of Mathematics Olympiads. Exercises have also been given in the book. Problems from recently held Olympiads have also been given in the book. The book also contains five practice sets designed on the lines of the questions asked in the precious years? mathematics Olympiads questions. Also answers to solutions for the practice sets have been provided at the end. As the book contains ample study as well as practice material, it for sure will help aspirants score high in the upcoming Mathematics Olympiads and competitions for Class 4 students.

The Mathematical Olympiad examinations, covering the USA Mathematical Olympiad (USAMO) and the International Mathematical Olympiad (IMO), have been published annually since 1976. This is the fourth volume in that series. The

IMO is a world mathematics competition for high school students that takes place each year in a different country. Students from all over the world participate in this competition. These Olympiad style exams consist of several challenging essay-type problems. Although a correct and complete solution to an Olympiad problem often requires deep analysis and careful argument, the problems require no more than a solid background in high school mathematics coupled with a dose of mathematical ingenuity. There are helpful hints provided for each of the problems. These hints often help lead the student to a solution of the problem. Complete solutions to each of the problems is also included, and many of the problems are presented together with a collection of remarkable solutions developed by the examination committees, contestants and experts, during or after the contest. For each problem with multiple solutions, some common crucial results are presented at the beginning of these solutions.

The famed International Mathematical Olympiad has been challenging students worldwide for over 40 years. The first competition was held in Romania in 1959 with seven countries participating. It has since expanded to attract competitors from over 80 countries, representing all five continents. This first volume features every question set from 1959–75, along with comprehensive solutions and multiple answers where applicable. A fantastic selection of mathematical puzzles, this fully updated three volume series will be of interest to serious mathematicians and enthusiasts alike. István Reiman’s compilation of logic puzzles and questions will tease the intellect of all those with a mathematical mind.

The Mathematical Olympiad examinations, covering the USA Mathematical Olympiad (USAMO) and the International Mathematical Olypiad (IMO), have been published annually since 1976. The IMO is the world mathematics championship for high school students. It takes place every year in a different country. The IMO competitions help to discover, challenge, and encourage mathematically gifted young people all over the world. In addition to presenting their own carefully written solutions to the problems presented here, the editors have provided remarkable solutions developed by the examination committees, contestants, and experts, during and after the contests. They also provide a comprehensive guide to other materials on advances problem-solving. This collection of excellent problems and beautiful solutions is a valuable companion for students who wish to develop their interest in mathematics outside the school curriculum and to deepen their knowledge of mathematics.

This introductory textbook takes a problem-solving approach to number theory, situating each concept within the framework of an example or a problem for solving. Starting with the essentials, the text covers divisibility, unique factorization, modular arithmetic and the Chinese Remainder Theorem, Diophantine equations, binomial coefficients, Fermat and Mersenne primes and other special numbers, and special sequences. Included are sections on mathematical induction and the pigeonhole principle, as well as a discussion of other number systems. By emphasizing examples and

applications the authors motivate and engage readers.

BETHANY MACDONALD HAS TRAINED SIX LONG YEARS FOR THIS MOMENT. SHE'LL TRY TO SOLVE FIVE QUESTIONS IN THREE HOURS, FOR ONE IMPROBABLE DREAM. THE DREAM OF REPRESENTING HER COUNTRY, AND BECOMING A MATH OLYMPIAN. As a small-town girl in Nova Scotia bullied for liking numbers more than boys, and lacking the encouragement of her unsupportive single mother who frowns at her daughter's unrealistic ambition, Bethany's road to the International Math Olympiad has been marked by numerous challenges. Through persistence, perseverance, and the support of innovative mentors who inspire her with a love of learning, Bethany confronts these challenges and develops the creativity and confidence to reach her potential. In training to become a world-champion "mathlete", Bethany discovers the heart of mathematics - a subject that's not about memorizing formulas, but rather about problem-solving and detecting patterns to uncover truth, as well as learning how to apply the deep and unexpected connections of mathematics to every aspect of her life, including athletics, spirituality, and environmental sustainability. As Bethany reflects on her long journey and envisions her exciting future, she realizes that she has shattered the misguided stereotype that only boys can excel in math, and discovers a sense of purpose that through mathematics, she can and she will make an extraordinary contribution to society....

International Mathematics Olympiad (IMO) Workbooks are designed to familiarize students with the type of questions coming in Olympiad exams. The Workbook contains chapter-wise multiple choice question bank divided in the section of Logical Reasoning, Mathematical Reasoning, Everyday Mathematics and Achievers Section, followed by Hints and explanation in the end of the book.

Appealing to everyone from college-level majors to independent learners, The Art and Craft of Problem Solving, 3rd Edition introduces a problem-solving approach to mathematics, as opposed to the traditional exercises approach. The goal of The Art and Craft of Problem Solving is to develop strong problem solving skills, which it achieves by encouraging students to do math rather than just study it. Paul Zeitz draws upon his experience as a coach for the international mathematics Olympiad to give students an enhanced sense of mathematics and the ability to investigate and solve problems.

A fantastic compilation of mathematical puzzles, this fully updated three-volume series will challenge and engage serious mathematicians and enthusiasts alike.

A collection of problems put together by coaches of the U.S. International Mathematical Olympiad Team.

This book has been designed to fulfil the preparation needs of candidates who aspire to crack International Mathematics Olympiad, National Talent Search Exam, and other competitive exams. The book is strictly based on the latest curriculum from

International Mathematics Olympiad. It has been prepared in accordance with the latest syllabus issued from CBSE, ICSE and other school boards across the country. The book consists of three sections namely Logical Reasoning, Mathematical Reasoning and Everyday Mathematics. The Concepts, Formulae and important Tips are given in the beginning of each chapter. Fully solved Multiple Choice Questions (MCQs) with detailed explanations enhance the problem solving skills of students. Model Papers are included in the book for thorough practice, and Previous Years' IMO papers given in the CDs help candidates to understand the level of difficulty and grasp the structure of questions asked in the exam. Salient Features:i E Concepts are introduced gradually i E Simple, lucid and systematic presentationi E Detailed solutions at the end of each chapteri E Previous years' Question Papers and Model Test PapersHighly RecommendedThe book is highly recommended for the candidates who aspire to get distinction in Mathematics and Science Olympiads at national and international level. It will prove very useful for various other competitive examinations such as:i E NTSE, NSTSE, SLSTSEi E SSC, DSC, B. Ed, TET, CTET etc.

The International Mathematical Olympiad (IMO) is a competition for high school students. China has taken part in the IMO 21 times since 1985 and has won the top ranking for countries 14 times, with a multitude of golds for individual students. The six students China has sent every year were selected from 20 to 30 students among approximately 130 students who took part in the annual China Mathematical Competition during the winter months. This volume comprises a collection of original problems with solutions that China used to train their Olympiad team in the years from 2006 to 2008. Mathematical Olympiad problems with solutions for the years 2002?2006 appear in an earlier volume, Mathematical Olympiad in China.