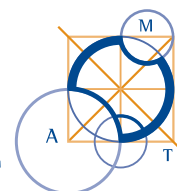


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 indicates suitable for Primary level students

COMPETITION MATERIALS

AMC PRACTICE PACKS

Practice packs of Australian Mathematics Competition papers are a valuable tool in preparing for the competition. Each pack contains five papers, one each from 2007 to 2011, and an answer key.

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AMC SOLUTIONS AND STATISTICS

WJ ATKINS & PJ TAYLOR

Published annually, these books provide a record of the AMC questions and solutions, and details of medallists and prizewinners. They also provide items such as levels of Australian response rates and analyses. There are two versions: one covers the secondary papers (Junior, Intermediate and Senior, A5 size) and the other covers the Middle and Upper Primary papers from 2004 (A4 size).

 **Primary Divisions Code: SS11P Price: \$37.00**
Secondary Divisions Code: SS11 Price: \$37.00
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AUSTRALIAN MATHEMATICS COMPETITION BOOK 1 1978–1984, BOOK 2 1985–1991, BOOK 3 1992–1998 & BOOK 4 1999–2005

These books consist of questions, full solutions and statistics from past Junior, Intermediate and Senior AMC papers. The questions have been grouped by topic and ranked in order of difficulty. They are powerful tools for motivating and challenging students at all levels.

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Book 2 Code: AB2 Price: \$42.00 **Book 4 Code: AB4 Price: \$42.00**

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WJ ATKINS & PJ TAYLOR

This book consists of questions and full solutions from past AMC papers and is designed for use with students in Middle and Upper Primary. The questions are arranged in papers of 10 and are presented ready to be photocopied for classroom use.

 **Code: AP1 Price: \$52.50**

MATHEMATICS CONTESTS—THE AUSTRALIAN SCENE

PJ BROWN, A DI PASQUALE & KL MCAVANEY

This book provides an annual record of the Australian Mathematical Olympiad Committee's program. Each book consists of the questions, solutions, results and statistics for: Challenge Stage of the Mathematics Challenge for Young Australians, Australian Intermediate Mathematics Olympiad, AMOC Senior Contest, Australian Mathematical Olympiad, Asian Pacific Mathematics Olympiad and International Mathematical Olympiad. **Editions from previous years are available for \$30.00 each and can be ordered by specifying the code and year e.g. 2007 – AS07.**

Code: AS11 Price: \$37.00 **Previous Years Code: e.g. AS08 Price: \$30.00**

CHALLENGE! 1991–1998 BOOK 1 CHALLENGE! 1999–2006 BOOK 2

**JB HENRY, J DOWSEY, AR EDWARDS, LJ MOTTERSHEAD,
A NAKOS, G VARDARO & PJ TAYLOR**

These books contain the problems and full solutions to all Junior and Intermediate problems set in the Mathematics Challenge for Young Australians, Challenge Stage, exactly as they were proposed at the time. They are highly recommended as a resource for classes from Years 7 to 10 and also for students who wish to develop their problem-solving skills. Most of the problems are graded within to allow students to access an easier idea before developing through a few levels.

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This collection of problems is designed for use with students in Years 5 to 8. Each of the 65 problems is presented ready to be photocopied for classroom use. With each problem there are teacher's notes and fully worked solutions. Some problems have extension problems presented with the teacher's notes. The problems are arranged in topics (Number, Counting, Space and Number, Space, Measurement, Time, Logic) and are roughly in order of difficulty within each topic. There is a chart suggesting which problem-solving strategies could be used with each problem.

 **Code: PMS Price: \$52.50**

AUSTRALIAN MATHEMATICAL OLYMPIADS BOOK 1 1979–1995, BOOK 2 1996–2011

**BOOK 1 H LAUSCH & PJ TAYLOR; BOOK 2 H LAUSCH, A DI PASQUALE,
DC HUNT & PJ TAYLOR**

These books are a complete collection of all Australian Mathematical Olympiad papers from the first in 1979 to 2011. Solutions to all problems are included and in a number of cases alternative solutions are also offered. The material is recommended for senior and advanced students.

Code: AMO1 Price: \$42.00 **Code: AMO2 Price: \$42.00**

EXTENSION MATERIALS

ENRICHMENT STUDENT NOTES

The Student Notes are supplied to students enrolled in the program along with other materials provided to their teacher. The six stages offer extension material for students from year 5 to year 10, in that order.

We are making these Notes available as a text book to interested parties for whom the program is not available. The notes refer to a problems booklet, which contains assessment problems for each year. If available, we will include a complimentary copy of a previous problems booklet but solutions to these are not available.

NEWTON: Recommended for students of about Year 5 and 6, topics include polyominoes, arithmetricks, polyhedra, patterns and divisibility.

Code: **SNT00** Price: **\$42.00**

DIRICHLET: Recommended for students of Year 6 or 7, topics include problem-solving techniques, tessellations, base five arithmetic, pattern seeking, rates and number theory.

Code: **SD00** Price: **\$42.00**

EULER: Recommended for students of about Year 7, topics include elementary number theory and geometry, counting and pigeonhole principle.

Code: **SE00** Price: **\$42.00**

GAUSS: Recommended for students of about Year 8, topics include Pythagoras' Theorem, Diophantine equations, counting techniques and congruences.

Code: **SG00** Price: **\$42.00**

NOETHER: Recommended for students of about Year 9, topics include number theory, sequences and series, inequalities and circle geometry.

Code: **SN00** Price: **\$42.00**

PÓLYA: Recommended for students of about Year 10, topics include polynomials, algebra, inequalities and Euclidean geometry.

Code: **SPO0** Price: **\$42.00**

SEEKING SOLUTIONS

JC BURNS

The author solves the problems of the 1988, 1989 and 1990 International Mathematical Olympiads. Unlike other books in which only complete solutions are given, John Burns describes the complete thought processes he went through when solving the problems from scratch. Written in an inimitable and sensitive style, this book is a must for a student planning on developing the ability to solve advanced mathematics problems.

Code: **SS** Price: **\$42.00**

PROBLEM SOLVING VIA THE AMC

WJ ATKINS

This 210-page book consists of a development of techniques for solving approximately 150 problems that have been set in the Australian Mathematics Competition. These problems have been selected from topics such as geometry, motion, Diophantine equations and counting techniques.

Code: **PSH** Price: **\$42.00**

MATHEMATICAL TOOLCHEST

AW PLANK & N WILLIAMS

This 120-page book is intended for talented or interested secondary school students who are keen to develop their mathematical knowledge and acquire new skills. Most of the topics are enrichment material outside the normal school syllabus and are accessible to enthusiastic Year 10 students.

Code: **MTC** Price: **\$42.00**

METHODS OF PROBLEM SOLVING BOOKS 1 & 2

JB TABOV & PJ TAYLOR

These books introduce senior students aspiring to Olympiad competition to particular mathematical problem-solving techniques. The books contain formal treatments of methods which may be familiar or may introduce the student to new, sometimes powerful techniques.

Book 1 Code: **MP1** Price: **\$42.00**

Book 2 Code: **MP2** Price: **\$42.00**

TEACHING AND ASSESSING WORKING MATHEMATICALLY BOOKS 1 & 2

E STOYANOVA

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Book 1 Code: **TAW** Price: **\$42.00**

Book 2 Code: **TAW2** Price: **\$42.00**

A MATHEMATICAL OLYMPIAD PRIMER

G SMITH

This accessible text will enable enthusiastic students to enter the world of secondary school mathematics competitions with confidence. This is an ideal book for senior secondary students who aspire to advance from school mathematics to solving olympiad-style problems. The author is the leader of the British IMO team.

Code: **MOP** Price: **\$42.00**

INTRODUCTION TO INEQUALITIES

C J BRADLEY

The subject of inequalities provides a rich source of material for mathematics competitions. The difficulty in problem solving is usually that of knowing which sort of inequality to select and how to apply it. This accessible text aims to give the enthusiastic student plenty of tips on how to do this effectively. It is a thoroughly revised and extended edition of a book that was originally published as part of the composite volume Introductions to Number Theory and Inequalities.

Code: **IIUK** Price: **\$42.00**

INTRODUCTION TO NUMBER THEORY

C J BRADLEY

The aim of this book is to enable talented students to tackle the sort of problems on number theory that are set in mathematics competitions. Topics include primes and divisibility, congruence arithmetic and the representation of real numbers by decimals. A useful summary of techniques and hints is included. This is a thoroughly revised and extended edition of a book that was originally published as part of the composite volume Introductions to Number Theory and Inequalities.

Code: **INTUK** Price: **\$42.00**

INTERNATIONAL MATHEMATICS

USSR MATHEMATICAL OLYMPIADS 1989–1992

AM SLINKO

Arkadii Slinko, now at the University of Auckland, was one of the leading figures of the USSR Mathematical Olympiad Committee during the last years before democratisation. This book brings together the problems and solutions of the last four years of the All-Union Mathematics Olympiads. Not only are the problems and solutions highly expository but the book is worth reading alone for the fascinating history of mathematics competitions to be found in the introduction.

Code: **USR** Price: **\$42.00**

POLISH & AUSTRIAN MATHEMATICAL OLYMPIADS 1981–1995

ME KUCZMA & E WINDISCHBACHER

Poland and Austria have some of the strongest traditions of mathematical olympiads in Europe even holding a joint olympiad of high quality. This book contains some of the best problems from the national olympiads. All problems have two or more independent solutions, indicating their richness as mathematical problems.

Code: **PAO** Price: **\$42.00**

INTERNATIONAL MATHEMATICS –TOURNAMENT OF TOWNS

BOOK 1 1980–1984, BOOK 2 1984–1989,
BOOK 3 1989–1993, BOOK 4 1993–1997,
BOOK 5 1997–2002, BOOK 6 2002–2007

PJ TAYLOR & A STOROZHEV

The International Mathematics Tournament of Towns is a problem-solving competition in which teams from different cities are handicapped according to the population of the city. Ranking only behind the International Mathematical Olympiad, this competition has its origins in Eastern Europe (as did the Olympiad) but is now open to cities throughout the world. These books contain all the problems and solutions of the Tournaments.

Book 1 Code: **TT1** Price: **\$42.00**

Book 2 Code: **TT2** Price: **\$42.00**

Book 3 Code: **TT3** Price: **\$42.00**

Book 4 Code: **TT4** Price: **\$42.00**

Book 5 Code: **TT5** Price: **\$42.00**

Book 6 Code: **TT6** Price: **\$42.00**

CHINESE MATHEMATICS COMPETITIONS & OLYMPIADS BOOK 1 1981–1993 & BOOK 2 1993–2001

A LIU

These books contain the papers of two contests, the Chinese National High School Competition and the Chinese Mathematical Olympiad. The problems are meticulously constructed, many with distinctive flavour, and come in all levels of difficulty, from the relatively basic to the most challenging.

Book 1 Code: **CMO** Price: **\$42.00**

Book 2 Code: **CMO2** Price: **\$42.00**

ASIAN PACIFIC MATHEMATICS OLYMPIADS 1989–2000

H LAUSCH & C BOSCH-GIRAL

With innovative regulations and procedures, the APMO has become a model for regional competitions around the world where costs and logistics are serious considerations. This 149-page book reports the first twelve years of this competition, including sections on its early history, problems, solutions and statistics.

Code: **APO** Price: **\$42.00**

101 PROBLEMS IN ALGEBRA

EDITED BY T ANDREESCU & Z FENG

This book contains one hundred and one highly rated problems used in training and testing the USA International Mathematical Olympiad (IMO) team. It gradually builds students' algebraic skills and techniques and aims to broaden students' views of mathematics and better prepare them for possible participation in mathematical competitions. It provides in-depth enrichment in important areas of algebra by reorganizing and enhancing students' problem-solving tactics, and stimulates interest for future study of mathematics.

Code: **101PA** Price: **\$42.00**

HUNGARY–ISRAEL MATHEMATICS COMPETITION *S GUERON*

The Hungary Israel Mathematics Competition commenced in 1990 when diplomatic relations between the two countries were in their infancy. This 181-page book summarizes the first 12 years of the competition (1990 to 2001) and includes the problems and complete solutions. The book is directed at mathematics lovers, problem-solving enthusiasts and students who wish to improve their competition skills, especially IMO trainees. The book includes a glossary explaining the terms and theorems which are not standard that have been used in the book.

Code: **HI** Price: **\$42.00**

BULGARIAN MATHEMATICS COMPETITION 1992–2001

BJ LAZAROV, JB TABOV, PJ TAYLOR & AM STOROZHEV

The Bulgarian Mathematics Competition has become one of the most difficult and interesting competitions in the world. It is unique in structure combining mathematics and informatics problems in a multi-choice format. This book covers the first ten years of the competition complete with answers and solutions. Students of average ability and with an interest in the subject should be able to access this book and find a challenge.

Code: **BMC** Price: **\$42.00**

INTERNATIONAL MATHEMATICAL TALENT SEARCH PART 1 & 2

G BERZSENYI

These books contain the problems and solutions of the International Mathematical Talent Search, plus an appendix of earlier problems and solutions of the USA Mathematical Talent Search. They contain many interesting and some unusual problems, many with detailed backgrounds and insights. They are aimed at advanced, senior students at Year 10 level and above.

Part 1 Code: **IMTS1** Price: **\$42.00**

Part 2 Code: **IMTS2** Price: **\$42.00**

INFORMATICS (COMPUTER SCIENCE)

THE AUSTRALIAN INFORMATICS COMPETITION
BOOK 1 2005-2010

D I CLARK

This book contains the questions, solutions and statistics from the 2005-2010 Australian Informatics Competition papers. The questions are grouped by category, and the book includes an explanation of each category and its relevance. Within a category, there may be several problem types, each of which also has an introduction, including practical applications and an outline of the method of solution.

Code: AIC1 Price: \$42.00

JOURNALS

MATHEMATICS COMPETITIONS

This bi-annual journal is published on behalf of the World Federation of National Mathematics Competitions. It contains articles of interest to academics and teachers around the world who run mathematics competitions. It includes articles on actual competitions, results of competitions, and mathematical and historical articles that may be of interest to those associated with competitions. Past issues are available: contact publications@amt.edu.au.

Code: WFED Price: \$70.00

Price includes one year subscription (2 issues) and postage (Australia only)

PARABOLA INCORPORATING FUNCTION

This tri-annual journal publishes articles on applied mathematics, mathematical modelling, statistics, pure mathematics and the history of mathematics, that can contribute to the teaching and learning of mathematics at the senior secondary school level. The journal's readership consists of mathematics students, teachers and researchers with interests in promoting excellence in senior secondary school mathematics education. Past issues are available: contact publications@amt.edu.au.

Code: PARA Price: \$30.00

Price includes one year subscription (3 issues) and postage (Australia only)

T-SHIRTS

The T-shirts in this series are based on different mathematicians and one informatician depicting an outstanding area of their work in a brightly coloured cartoon representation. They are: Leonhard Euler's famous Seven Bridges of Königsberg question, Gauss's discovery of the construction of a 17-gon by straight edge and compass, Emmy Noether's work on algebraic structures, George Pólya's Necklace Theorem, Peter Gustav Lejeune Dirichlet's Pigeonhole Principle, Sir Isaac Newton's laws of motion and gravity, and Alan Mathison Turing's computing machine. They are available in Med (Euler, Gauss and Newton only) and XL. The T-shirts are made of 100% cotton and are designed and printed in Australia.

Euler XL Code: TSE

Euler Med Code: TSEM

Gauss XL Code: TSG

Gauss Med Code: TSGM

Noether XL Code: TSNO

Price: \$27.00 per T-shirt

Pólya XL Code: TSP

Dirichlet XL Code: TSD

Newton XL Code: TSNT

Newton Med Code: TSNTM

Turing XL Code: TST

AUSTRALIAN MATHEMATICS TRUST

The AMT is a national not-for-profit organisation and its Board includes representatives of the Australian Association of Mathematics Teachers, Australian Academy of Science and Australian Mathematical Society. The AMT administers the following mathematical activities to challenge and encourage Australians in their understanding of mathematics and informatics and to assist them to realise their intellectual potential.

AUSTRALIAN INFORMATICS COMPETITION (AIC)

Thursday 10 May 2012

MATHEMATICS CHALLENGE FOR YOUNG AUSTRALIANS (MCYA)

*CHALLENGE STAGE – 3 week
program between March & June*

*ENRICHMENT STAGE – 16 week
program between April & Sept*

*AUSTRALIAN INTERMEDIATE
MATHEMATICS OLYMPIAD (AIMO)*

Thursday 16 August 2012

AUSTRALIAN MATHEMATICS COMPETITION (AMC)

Thursday 2 August 2012

AUSTRALIAN INFORMATICS OLYMPIAD (AIO)

Thursday 6 September 2012

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