

A BRIEF GUIDE TO MATHEMATICS COMPETITIONS

*Thou shalt not covet, but tradition
Approves all forms of competition.
— A.H. Clough.*

Our readers in New South Wales have no less than three separate opportunities to pit their wits against the wiles of the problem-setter in pursuit of honour, glory and prizes. What follows should give some idea of the nature and purpose of these competitions.

The New South Wales Mathematical Olympiad

For just over ten years now, a National Mathematics Summer School has been held in Canberra in January of each year. This School is sponsored by the Australian National University and the Australian Association of Mathematics Teachers, with financial support also provided by the Australian Schools Commission. For two weeks, sixty students selected from all Australian States and Territories on the basis of their mathematical ability, attend courses given by overseas and local mathematicians. The topics chosen lie outside the usual school syllabus and allow the rapid development of useful techniques and mathematically important ideas. Students work very hard, and the best way to judge their reactions is to talk to someone who has been to a Summer School. (We hope that some of this year's participants will be inspired to write to Parabola to share their experiences with our readers.)

In New South Wales, twenty students are selected from Year 11 for participation in the following year's School. Selection is now based principally on performance in the New South Wales Mathematical Olympiad. This is a test of mathematical ability, conducted by the Mathematical Association of New South Wales, and held in Schools on the first Wednesday in August. The competition problems and their solutions subsequently appear in "Reflections", the Journal of the Mathematical Association of New South Wales.

Letters to every New South Wales school with Year 11 students, inviting them to submit names of students wishing to compete in the Olympiad in order to be considered for Summer School selection, will be sent out before the end of May. The closing date for applications is usually near the end of June. (Students in Years 9 and 10 may enter the Olympiad, but are not eligible for Summer School selection.)

Any reader whose school apparently misses out on Olympiad invitations should request the school to contact the Olympiad organiser before the end of June. He is Mr J.L. Williams, Department of Pure Mathematics, University of Sydney, Sydney, 2006.

—John Mack, University of Sydney.

The University of New South Wales School Mathematics Competition

The School Mathematics Competition has been held annually since 1962; its prize-winners now form a very select band which includes a number of successful mathematicians.

There are two divisions of the competition: a senior and a junior. The senior division is open to all who are under nineteen years of age and not receiving tertiary education. The junior division is open to all who are under seventeen years of age and attending Year 10 or below at school. There are cash prizes for the winners in each division and the prize-winners and runners-up receive a certificate of merit and a book prize. The prizes are donated by IBM.

The competition is so designed that mathematical insight and ingenuity are needed for success, rather than efficiency in tackling routine examples. Students are particularly encouraged to enter the competition if they are able to make some progress towards the solution of at least one of the problems from previous years' competitions.

Application forms, sample problems and details of the competition are sent to Principals of all secondary schools in New South Wales in March. The closing date for applications is towards the end of May and the examination is held in early July. The entry fee for the competition is \$1. Solutions to this year's competition will be printed in Volume 15, Number 2 of Parabola, which should be available as from the date of the competition.

Enquiries concerning the competition may be directed to the organiser, Mr M.D. Hirschhorn, School of Mathematics, University of New South Wales, Kensington, New South Wales, 2033.

—*Michael Hirschhorn, University of New South Wales*

The Australian Mathematics Competition

The Australian Mathematics Competition, sponsored by the Canberra College of Advanced Education, the Bank of New South Wales and the Canberra Mathematical Association, has grown over the last three years into a mass national movement. Its aims, like ours, are to create, encourage and sustain interest in the study of mathematics. However, the competition is not designed specifically for the mathematically gifted. The organisers hope that all entrants will find a number of questions which they can do and other questions to challenge and interest them.

The competition is divided into three divisions: junior (Years 7 and 8), intermediate (Years 9 and 10) and senior (Years 11 and 12). Medals, prizes ranging from \$20 to \$100 and certificates are awarded in each division.

The competition is organised through schools and the closing date for advising the number of entrants from each school is 31 March. The examination, which consists of a battery of questions with multiple choice answers, is to be held on 13 June. Copies of questions and solutions from previous competitions can be purchased from the organisers. All enquiries should be addressed to the Secretary, Australian Mathematics Competition, School of Information Sciences, Canberra College of Advanced Education, Belconnen, A.C.T., 2616.

