AN ASIAN/WEST PACIFIC MATHEMATICAL OLYMPIAD

Peter O'Halloran

Peter J. O'Halloran is a Principal Lecturer in Mathematics at Canberra College of Advanced Education, Australia. He studied at Sydney University (1949-1952) and the University of Wollongong (1966-67). He has taught in secondary schools, was a management science consultant on a number of projects in Canada and Australia, was a visiting professor at Waterloo University, Canada (1973,1983), President of the Canberra Mathematical Association (1975-77), Chairman/Executive Director of the Australian Mathematics Competition (1976-), Deputy Chairman/Executive Director of the Australian Mathematical Olympiad Committee (1981-),Chairman 1988 IMO Executive Board, Director, Canberra CAE Maths Day (1981-), Chairman, World Federation of National Mathematics Competitions (1984-).

1. Introduction

During the last few years a number of Regional Mathematical Olympiads have been successfully started around the world. For example:

(i) The Iberoamerican Mathematical Olympiad for the Spanish speaking countries of the Americas (see Newsletters 3 & 4 of the World Federation of National Mathematics Competitions);

(ii) The Balkan Mathematical Olympiad which, I believe, involves countries such as Bulgaria, Greece and Cyprus, and;

(iii) Les Olympiades Maghrebines involving Tunisia, Algeria and Morocco.

In addition, as can be seen from an accompanying article in this Newsletter, the African Mathematical Union has formed the AMU Commission for the Mathematical Olympiads. The aim of this body includes the formation of regional olympiads within the continent of Africa followed by a Pan African Mathematical Olympiad as a preliminary before the annual International Mathematical Olympiads. It is suggested that the success of this extension of the Mathematical Olympiad to the whole of Africa will be very dependent apon the help that the exprienced IMO countries in the region are able to give.

Within the Asian/West Pacific region there are, at present, only three countries that have had experience at the annual IMO's, namely the Peoples Republic of China, Vietnam and Australia.

2. The Aim of This Paper

The aim of this paper is to determine if there is sufficient interest among mathematicians, teachers, educators and government officials within the Asian/West Pacific region in the concept of creating a Mathematical Olympiad Committee or Commission with the intention of encouraging countries within the region to develop their own local mathematical olympiads with a possible long-term goal to possibly participate in future IMO's.

The specific aims of the proposed Commission would be not unlike those of the AMU's proposal, namely

* initially to organize, with help from the more experienced IMO countries in the region, an Asian/West Pacific Mathematical Olympiad;

* as more experience is obtained, to encourage and promote in the Asian/West Pacific countries local mathematical olympiads, and;

* as these countries themselves develop their own mathematical olympiad experiences, to invite them to participate in the proposed Asian/West Pacific Mathematical Olympiad.

Of course, it is explicit that the aims of such an olympiad would also reflect those of the IMO's; for example the discovering, encouraging and challenging of mathematically gifted school students; the fostering of friendly international relations between students and their teachers, and the sharing of information on educational syllabuses and practices throughout the Asian/West Pacific Region.

3. A Possible Asian/West Pacific Mathematical Olympiad Pilot Scheme

The following are early thoughts on how such an olympiad would operate. They are given purely as a starting point for reactions and discussion. I believe that it would be wise to hasten slowly in the early years and develop sound administrative procedures with, say, four countries participating in a pilot acheme. Because of the high cost of travel and accommodation, it is suggested that the Mathematical Olympiad would itself be contested by correspondence.

A representative from each of the four countries would be responsible for collecting say five questions and solutions (plus a proposed marking strategy) from his/her country.

These questions would be circulated to the other three representatives so that each representative would have a total of 20 questions. Each representative would rank, say, the top 10 questions (or some other kind of agreed strategy) and pass these rankings to an elected chairman.

The chairman would select five of these questions to form a reasonably balanced contest paper and convey this information to the other three countries.

Teams of, say, 10 or 12 students from each country would then sit for this Asian/West Pacific Mathematical Olympiad within their own schools. Their efforts at the solutions would be processed, marked and scored by local mathematicians. The resulting scores could be collated centrally by telex, telephone or telegram and an overall ranking of students' scores could be determined. Appropriate certificates could then be awarded within each country.

4. Where do we go from now?

There is already a positive response from Australian mathematicians, teachers and their national associations.

However, I would like reactions, as soon as possible, from mathematicians, teachers and their associations and governments from Asian/West Pacific countries. In particular I would appreciate reactions from those countries which already have IMO experience, namely the Peoples Republic of China and Vietnam.

Perhaps there may be an opportunity to discuss, in more depth, the concept of organizing an Asian/West Pacific Mathematical Olympiad with various IMO team leaders during tis year's IMO in Cuba.

If there is general agreement on the idea of such a Commission, then an ideal time for the first meeting of such a Commission could be during the 29th IMO which is being held in Australia in July 1988.

It is now in your hands. Please don't hesitate to contact me with your reactions, ideas and suggestions.

Peter J. O'Halloran,
Asian/West Pacific MO,
Canberra College of Advanced Education,
P.O. Box 1,
Belconnen, ACT, 2616,
AUSTRALIA.
Telex: 62267 A A CANCOL

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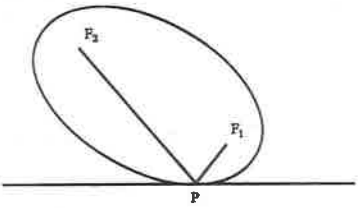
QUESTIONS INSPIRED BY MARTIN GARDNER

- *Andy Liu*

(This is the conclusion to the article by Andy Liu on pages 16 and 17 of Newsletter No. 4 which was inadvertantly omitted from that issue.)

The subject of the February, 1961 column is the ellipse. It is stated without proof that if F_1 and F_2 are the foci of an ellipse and P is any point on the ellipse, then F_1P and F_2P make equal angles with the tangent to the ellipse at P. I was looking for a simple proof.



Problem 11, 1985 AIME.

An ellipse has foci at (9,20) and (49,55) in the xy-plane and is tangent to the x-axis. What is the length of its major axis?

I am certain that " Mathematical Games " have influenced the composition of other problems of mine without my being aware of it. Such is the power of Martin Gardner.

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