

resigned from the Society."

Paragraph 5, delete first sentence.

MEMBERSHIP LIST SUPPLEMENT 84-2

12th June 1984

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NEWS AND ANNOUNCEMENTS

SUMMARY OF RESULTS OF IRISH NATIONAL MATHEMATICS CONTEST 1984

The Sixth Irish National Mathematics Contest was held on Tuesday, February 28, 1984, and attracted 1,634 entries from 84 schools as against 1,797 entries from 116 schools last year.

To judge by the results received so far, this year's contest was harder than last year's. Only 21 contestants managed to score 80 or more marks; nobody scored in excess of 99. Two of the 21 are girls.

The winner is:

Ronan Waldron,  
Gonzaga College,  
Sandford Road,  
Ranelagh,  
Dublin 6.

Ronan scored 98 marks. To note his achievement, he will be presented with an Award Pin by the Mathematical Association of America.

The highest team score - the sum of the highest three scores by individual contestants from the same school - was returned by

Presentation Brothers College,  
Western Road,  
Cork.

The winning team, composed of David J. Barry, Gerard Daly and Michael K. Tyrell, scored a total of 263 marks.

The ranking of the top 10 contestants is shown in the Roll of Honour overleaf:

Roll of Honour

<u>Candidate</u>	<u>School</u>	<u>Score</u>
Ronan Waldron	Gonzaga College, Sandford Rd, Ranelagh, Dublin 6.	98
Mark A. Gibbon	Coleraine Academical Institution, Coleraine, Co. Londonderry.	94
Conor Kiely*	O'Connell School, Dublin 1.	90
David J. Barry	Presentation Brothers College, Western Road, Cork.	88
Stephen Brady*	O'Connell School, Dublin 1.	88
Gerard Daly	Presentation Brothers College, Western Road, Cork.	88
Gillian E. Kennedy	Ballymena Academy.	87
Michael E. Tyrrell	Presentation Brothers College Western Road, Cork.	87
David J. Ambrose	Presentation Brothers College, Western Road, Cork.	84
Moirá E. Hoban	Loreto College, St Stephen's Green, Dublin 2.	83

\* Did not participate in IIMC 1984.

SUMMARY OF RESULTS OF IIMC 1984

The Second Irish Invitational Mathematics Contest was held on Tuesday, March 20, 1984. Twenty of the 21 top scorers in the INMC 1984 were invited to take the IIMC; in the event, only 16 sat the examination. The material for this was also supplied by the Mathematical Association of America Committee on High School Contests. Contestants had 2½ hours in which to answer 15 questions which had integer solutions. The top two contestants were Frank Roden and Ronan Waldron who both got eight correct answers.

Some of the questions were the following.

SAMPLE QUESTIONS

(5) Determine the value of  $ab$  if  $\log_8 a + \log_4 b^2 = 5$  and  $\log_8 b + \log_4 a^2 = 7$ .

(7) The function  $f$  is defined on the set of integers and satisfies

$$f(n) = \begin{cases} n-3 & \text{if } n \geq 1000, \\ f(f(n+5)) & \text{if } n < 1000 \end{cases}$$

Find  $f(84)$ .

(11) A gardener plants three maple trees, four oak trees and five birch trees in a row. He plants them in random order, each arrangement being equally likely. Let  $m/n$  in lowest terms be the probability that no two birch trees are next to each other. Find  $m+n$ .

(13) Find the value of

$$10 \cot(\cot^{-1}3 + \cot^{-1}7 + \cot^{-1}13 + \cot^{-1}21)$$

(14) What is the largest even integer which cannot be written as the sum of two odd composite numbers? (Recall that a positive integer is said to be composite if it is divisible by at least one positive integer other than 1 and itself.)

*F. Holland*