European Girls' Mathematical Olympiad 2012—Problem Selection and Coordination

Problem Selection Committee

Dr Geoff Smith MBE (Chair)
Dr Joseph Myers

The following countries submitted a total of 33 problems for consideration for EGMO 2012: Belarus, Luxembourg, Netherlands, Poland, Romania, Turkey, Ukraine, USA. From these problems, two proposed papers were selected with an alternative to each question also being available. The Jury identified two of the questions on the proposed papers as being already known, so those questions were replaced by the associated alternative questions.

Coordinators

Prof. Imre Leader (Chief Coordinator)
Dr Gerry Leversha (Problem 1, Senior Coordinator for Problems 1 and 7)
James Gazet (Problem 1)
Dr Paul Russell (Problem 2, Senior Coordinator for Problems 2 and 8)
Jonathan Lee (Problem 2)
Prof. Dan Crisan (Problem 3, Senior Coordinator for Problems 3 and 5)
Alexander Betts (Problem 3)
Dr Tony Gardiner (Problem 4, Senior Coordinator for Problems 4 and 6)
Dr Joseph Myers (Problem 4)
Jack Shotton (Problem 5)
Aled Walker (Problem 5)
Dr James Cranch (Problem 6)
David Mestel (Problem 6)
Dr Vesna Kadelburg (Problem 7)
Tom Lovering (Problem 7)
Sean Moss (Problem 8)
Craig Newbold (Problem 8)

Administrative assistance with coordination was provided by Beverley Detoeuf and Hannah Roberts.

Coordination started at 08:35 on Saturday 14 April. The first scores, for Poland on Problem 8, were entered into the scoring system at 08:39:04; the last scores, for Switzerland on Problem 2, were entered at 20:02:18. The entry of scores for each question finished at the following times: Problem 1 at 14:49:03, Problem 2 at 20:02:18, Problem 3 at 13:56:23, Problem 4 at 17:12:53, Problem 5 at 16:39:17, Problem 6 at 17:05:09, Problem 7 at 18:14:27, Problem 8 at 16:55:55. The medal boundaries were entered at 21:46:28.

Note on the solutions

The solutions given have been edited based on solutions from the original submitters, those from the Problem Selection Committee and those found during EGMO by various people. Earlier-listed solutions are not always those that most illuminate the nature of the problem and the issues involved in solving it. *We are aware of further solutions to some of the problems that are not yet included in these documents and hope to expand the documents in future to include these further solutions.*