Primary Mathematical Challenges

Welcome to Round 2 of the 2024-2025 Scottish Primary Mathematical Challenges. We hope that you and your pupils enjoyed Round 1 and would welcome feedback. This package contains

This Welcome Page (including Section Information) Round 2 Questions Information about Scottish Mathematical Council activities

The name of the Section Organiser is *not* on the question paper. Their details are on the website but are repeated here for convenience:

Section 1

Aberdeen City; Aberdeenshire; Highland; Moray; Orkney Islands; Shetland Islands; Western Isles Helen Martin (h.martin@abdn.ac.uk) Dept. of Curr. Studies, University of Aberdeen, Faculty of Education, MacRobert Building, Aberdeen AB24 5UA

Section 2

Angus; Clackmannanshire; Dundee City; Falkirk; Fife; Perth & Kinross; Stirling Rachel Norman (ran@cs.stir.ac.uk) Computing Science and Mathematics, University of Stirling, Stirling FK9 4LA

Section 3

East Lothian; Edinburgh City; Midlothian; Scottish Borders; West Lothian Scottish Mathematics Challenge, Andrina Inglis, Rm 3.06 Charteris Land, Moray House School of Education and Sport, St John's Street.Edinburgh EH8 8AQ (andrina.inglis@ed.ac.uk)

Section 4

Argyll & Bute; Dumfries & Galloway; East Ayrshire; East Dunbartonshire; East Renfrewshire; Glasgow City; Inverclyde; North Ayrshire; North Lanarkshire; Renfrewshire; South Ayrshire; South Lanarkshire; West Dunbartonshire John Winter (john.winter@strath.ac.uk) Lord Hope Building, 141 St James Road, Glasgow G4 0LT

The competition timetable for 2024-2025 is as follows:

	Last date for receipt	Last date for receipt of solutions from pupils			
Set No.	of questions by schools				
Ι	Friday 23 August 2024	Friday 27 September 2024			
II	Friday 25 October 2024	Friday 22 November 2024			
III	Friday 10 January 2025	Friday 7 February 2025			

If there are organisational difficulties you may contact me: Bill Richardson (wpr3145@gmail.com).

Remember to access the online archives:-) <u>MC-Primary-Archives</u>



The Scottish Mathematical Council

www.scot-maths.co.uk

MATHEMATICAL CHALLENGE 2024–2025

Entries must be the unaided efforts of individual pupils.

Solutions must include explanations and answers without explanation will be given no credit.

Do not feel that you must hand in answers to all the questions.

CURRENT AND RECENT SPONSORS OF MATHEMATICAL CHALLENGE ARE

The Edinburgh Mathematical Society, The Maxwell Foundation,

The London Mathematical Society and The Scottish International Education Trust.

The Scottish Mathematical Council is indebted to the above for their generous support and gratefully acknowledges financial and other assistance from schools, universities and education authorities.

Particular thanks are due to the Universities of Aberdeen, Edinburgh Napier, Moray House, St Andrews, Stirling, Strathclyde and to George Heriot's School, Gryffe High School and Kelvinside Academy.

Primary Division: Problems II

P2.1 Seven identical cakes are to be shared between eight guests at a party. In order to prevent arguments, each guest must be given an equal amount of cake.
What is the smallest number of separate pieces that the cakes can be cut into to achieve this? How can these cuts be made so that each guest gets their share in at most two pieces?



P2.2 I like Felicity better than Joanne. They are both hockey players – both good hockey players – but Joanne is inclined to brag more than a little.

'I've scored half as many again as Felicity,' she told me shortly after last season started. A fortnight later she had scored 7 more, while Felicity had increased her total by only two. 'I've got twice as many as Felicity now,' she said. 'I need only four more before the end of the month to set up a new club record.'

I couldn't help being rather pleased when I heard a little later that she hadn't managed it, and so the old club record for the number of goals scored before the end of May still stands. What is the club record?

P2.3 Three identical balls numbered 1, 2 and 3 are placed in a bag. Without looking, a ball is drawn from the bag and the number noted. The ball is then replaced in the bag. After this has been repeated three times, find the probability that the total of the three numbers is greater than 4.

END OF PROBLEM SET II

CLOSING DATE FOR RECEIPT OF SOLUTIONS :

22 November 2024

Look out for Problems III in January!

Look on the SMC web site: www.scot-maths.co.uk for information about Mathematical Challenge. There are archives of previous questions on: www.wpr3.co.uk/MC-archive/P/index-P.html

Here is a shortcut for your smartphone or tablet



SMC	

2024-2025

Mathematical Challenge Problems II

PRIMARY DIVISION

PLEASE USE CAPITALS TO COMPLETE

SURNAME					FOR OFFICIAL USE			
					Mai	ker		
OTHER NAME(S) (underline the one					Mai	·ks	_	
you prefer)					1	2	3	Total
SCHOOL								
AGE		YEAR C	F STUDY	Р				

- - - CUT ALONG HERE - - -

Please write your solutions on A4 paper and staple the above form to them. PLEASE WRITE YOUR NAME ON EVERY PAGE.

Send your entry through your school to the organiser of the section.

For further information on the competition, please see the School Materials which have been distributed to schools. A copy of these Materials can be obtained from

http://www.wpr3.co.uk/MC/materials/index.html

There are separate links for primary and secondary schools. This page also includes a list of authorities in each section and names and addresses of section organisers.

Scottish Mathematical Council Activities

SMC Conference in 2025

The conference planning team are working towards a face-to-face conference in 2025.

As information becomes available it will be uploaded onto the SMC website: <u>https://scottishmathematicalcouncil.org/conference/</u>