

## Primary Mathematical Challenges

Welcome to Round 2 of the 2023-2024 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

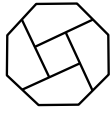
The competition timetable for 2023-2024 is as follows:

<i>Set No.</i>	<i>Last date for receipt of questions by schools</i>	<i>Last date for receipt of solutions from pupils</i>
<i>I</i>	Friday 25 August 2023	Friday 29 September 2023
<i>II</i>	Friday 27 October 2023	Friday 24 November 2023
<i>III</i>	Friday 12 January 2024	Friday 9 February 2024

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

**Remember to access the online archives:-)**

[MC-Primary-Archives](#)



## MATHEMATICAL CHALLENGE 2023–2024

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** Three ladies and three gentlemen are seated alternately at a round table.

1. Miss Adams is two places to the left of Mrs Stewart, and is not the graphic designer.
2. Mrs Stewart is not sitting opposite to Mr Stewart, but the accountant is facing the web-designer.
3. Mr McGregor has the graphic designer on his right.
4. The banker is on the left of Mr Greenwell our local artist, and opposite the doctor.
5. Miss Brodie and the web-designer have their heads close together over some sketches.

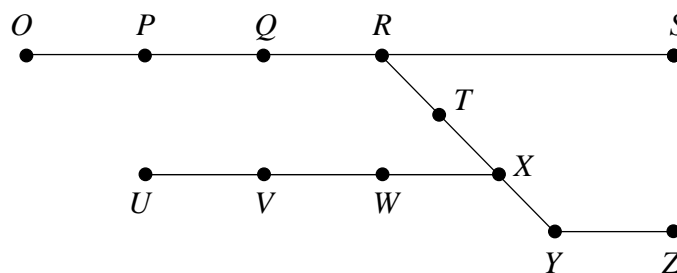
Who is sitting opposite Mrs Stewart?

**P2.2** Louise and her dog share the same birthday, but are different ages. When Louise's aunt asked how old her dog was, Louise replied as follows:

'Next birthday she will be half of my age but on my birthday two years ago she was one third of my age.'

How old is Louise now and how old is her dog now?

**P2.3**



The diagram shows a map of Callum's local rail network, where the dots represent stations and the lines are routes. Callum wants to visit all the stations, travelling only by train, starting at any station and ending at any station, with no restriction on which routes are taken.

What is the smallest number of stations he must visit more than once?

### END OF PROBLEM SET II

CLOSING DATE FOR RECEIPT OF SOLUTIONS :

24 November 2023

Look out for Problems III in January!

Look on the SMC web site: [www.scot-maths.co.uk](http://www.scot-maths.co.uk) for information about Mathematical Challenge.



# Mathematical Challenge Problems II

PRIMARY DIVISION

2023-2024

**PLEASE USE CAPITALS TO COMPLETE**

SURNAME

OTHER NAME(S)  
(underline the one  
you prefer)

SCHOOL

AGE

YEAR OF STUDY

FOR OFFICIAL USE

Marker

Marks

1	2	3	Total

— — — — - **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.

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# Scottish Mathematical Council Activities

Maths Week Scotland is done for 2023, some old references are below.

## SMC Challenges for Maths Week Scotland

Mathematical Challenge is designed to stretch the most able Primary 7 pupils. These pupils may also enjoy tackling the challenges written for Maths Week Scotland:

2023 Challenges: <https://www.bbc.co.uk/bitesize/topics/znypb7h/articles/zfsng2p>

2022 Challenges: <https://www.bbc.co.uk/bitesize/articles/zhn46f>

2021 Challenges: <https://www.bbc.co.uk/bitesize/articles/zdrhtrd>

2020 Challenges: <https://www.bbc.co.uk/bitesize/articles/zc32dp3>

Themed challenges for primary pupils of all ages and stages can be found here:

<https://www.mathsweek.scot/news/maths-week-scotland-ideas-for-your-classroom>

Here are some specific highlights that the SMC have helped put together:

Shape Up - [https://padlet.com/t\\_harper/SMC\\_MWS\\_2021](https://padlet.com/t_harper/SMC_MWS_2021)

Escape from Lochdonia Manor -

<https://www.parentclub.scot/articles/escape-from-lochdonia-manor>

Maths in Motion - [www.mathsweek.scot/schools/learning-resources/smc-maths-in-motion](http://www.mathsweek.scot/schools/learning-resources/smc-maths-in-motion)

## SMC Conference in 2024

The conference planning team are working towards a face-to-face conference at the University of Stirling in 2024 probably during May.

As information becomes available it will be uploaded onto the SMC website:

<https://scottishmathematicalcouncil.org/conference/>

## SMC Primary Journal

Work on this annual publication is ongoing and Issue 6 was published in Spring 2023.

Electronic versions of previous issues are available on the SMC website:

<https://scottishmathematicalcouncil.org/resources-and-publications/>

Scroll down for Primary Journals.