

Primary Mathematical Challenges

Welcome to the third and final round of the 2018-2019 Scottish Primary Mathematical Challenges. This package contains:

This Welcome Page (including Section Information)
Round 3 Questions

In 2017-2018, the name of the Section Organiser is not on the question paper. Their details are on the website but are repeated here for convenience.

Please be sure to use the correct one.

Section 1

Aberdeen City; Aberdeenshire; Highland; Moray; Orkney Islands; Shetland Islands;
Western Isles

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Section 2

Angus; Clackmannanshire; Dundee City; Falkirk; Fife; Perth & Kinross; Stirling

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Section 3

East Lothian; Edinburgh City; Midlothian; Scottish Borders; West Lothian

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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

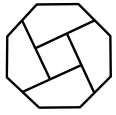
The competition timetable for 2018-2019 is as follows:

<i>Set</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 24 August 2018	Friday 28 September 2018
<i>II</i>	Friday 19 October 2018	Friday 23 November 2018
<i>III</i>	Friday 11 January 2019	Friday 8 February 2019

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

If you or your pupils suffer from withdrawal symptoms, books of past questions are still available but it seems unlikely that any more will be printed so questions and solutions for 2006-2018 can be accessed at:

www.wpr3.co.uk/MC-archive/



The Scottish Mathematical Council

www.scot-maths.co.uk

MATHEMATICAL CHALLENGE 2018–2019

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, Professor L E Fraenkel,
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, Glasgow, Heriot Watt, St Andrews, Stirling, Strathclyde and to George Heriot's School, Gryffe High School and Kelvinside Academy.

Primary Division: Problems III

P3.1. One of the stories in circulation at the moment is a cautionary tale. A few years ago, a local man fearing an imminent financial crisis left his job in the bank and set up an eco-fruit farm. He began well but knew little of either crop rotation or the science of fertilising. The result was that each year his crop was 25% less than in the previous year. The fall between 2007 and 2008 was 64 kg. What was his crop in 2011? **Explain.**

P3.2. Each of the digits 2, 3, 5, 7 and 8 is placed one to a box in the diagram.

(a) If the two-digit number is subtracted from the three digit number, what is the smallest possible difference?

(b) If the three-digit number is multiplied by the two-digit number, what is the smallest possible product?

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P3.3. A jeweller makes sets of small cubes out of solid silver. The jeweller has gold-plated no faces, some faces, or all of the faces on some of the cubes. The cubes in a set are all different, and no other cube can be added to the set. How many cubes are there in a set?

END OF PROBLEM SET III

CLOSING DATE FOR RECEIPT OF SOLUTIONS :

8 February 2019

For lots of practice visit: www.wpr3.co.uk/MC-archive/index



Mathematical Challenge Problems III

PRIMARY DIVISION

2018-2019

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.
