Enriching the teaching of A level mathematics: a study day for teachers

Saturday, 10 March 2018
at the School of Mathematics, The University of Leeds

11am   **Registration and coffee**

11.15am **Teaching mechanics: assumptions, misconceptions and Newton's Laws**

Workshop leader:
Dr Tom Roper

Tom taught mathematics in schools and colleges for 17 years, before joining the School of Education at the University of Leeds. Tom has given many talks on mathematics and has led workshops in schools and at conferences. Currently he is President of the Mathematical Association.

This workshop will cover basic assumptions, misconceptions and Newton's Laws in the teaching of mechanics. There will be many activities used that can be taken very easily directly into the classroom.

12.45pm Lunch

1.30pm   Using rich tasks for teaching A level Mathematics

Workshop leader
Dr Lizzie Kimber

Lizzie taught A-level mathematics in schools for seven years. She has worked on curriculum projects as a Nuffield Foundation Education Fellow and has designed resources for Underground Mathematics. Lizzie now teaches mathematics at Bishop Grosseteste University in Lincoln.

We will work together on some rich tasks offered by Underground Mathematics and consider the different ways in which the resources could be used to develop students' mathematical thinking. We will also discuss how classroom video clips can be used for teacher professional development.

3pm   **Tea and departure**

Fee: **£10 including refreshments and lunch.**

Places at this Day School must be booked in advance no later than March 1st. To book a place please complete this form and send it, *together with a cheque for £10* (payable to YBMA), or cash, to Alan Slomson, YBMA Secretary, 20 Grosvenor Park Gardens, Leeds, LS6 2PL.

Your name: ………………………………………………………………………………(capitals, please).

Your school:…………………………………………………………………………………………………..

Your postal address:………………………………………………………………………………………

………………………………………………………………….. postcode …………………………

Your email address: ………………………………………………………………………………………

Please list your dietary requirements, if any: …………………………………………………………..

You will be sent a receipt by post to confirm your place, together with travel directions.

W. P. Milne was Professor of Mathematics in the University of Leeds from 1919 to 1946. It was through his initiative that the Yorkshire Branch of the Mathematical Association was established in 1920. The W.P.Milne Sixth form Lecture was established in his memory shortly after his death in 1967. Unfortunately we do not have a record of when the first lecture was given, but we believe that we must be coming up to the 50th anniversary of the first of these lectures. Can any member with a long memory provide some information about this?

Mathematics in the Classroom

What difference does a diagram make?

Let $ABCD$ be a convex quadrilateral. Let E be the point where the diagonals AC and BD meet. The triangles AEB and DEC have the same area.

Prove that AD is parallel to BC.

We have deliberately not given a diagram for this problem. It can be solved in more than one way. Our conjecture is that the way you tackle the problem will depend on which diagram you draw.

Officers of the Yorkshire Branch of the Mathematical Association 2016-17
President: Lindsey Sharp (lindseyelizab50@hotmail.com)
Secretary: Alan Slomson (a.slomson@leeds.ac.uk)
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