Advanced Mathematics Support Programme®

Continuing Professional Development Standard

National Centre for Excellence in the Teaching of Mathematics

Developing Problem Solving in Year 12

Norwich

29th April 2020

Overview

Problem solving is one of the overarching themes of the A level specifications. Students need to be able to analyse a problem, break it down into its constituent parts and select the appropriate mathematics to solve it. This course is designed to help teachers develop key problem-solving skills in all of their students, and will show how the embedding of problem-solving materials contributes towards the ambition and intent of the department's A level curriculum. The course starts with ideas for developing general mathematical problem-solving skills and shows how students who wish to push themselves can develop those skills, so that they have the opportunity to apply for universities where an admissions test is required or a university where a good score in an admissions test can lead to a lower offer.

Aims

- To highlight the need for strong mathematical thought processes in students
- To provide teachers with the skills and strategies needed to effectively prepare their students for the problem solving requirements of their final examination
- To provide teachers with a plan for developing their most able students so they are able to consider universities that require admissions tests
- To encourage the use of a variety of problem solving activities in AS/A level maths classrooms
- To introduce and assess a range of problem solving materials designed for AS/A level maths students

Who will benefit from attending?

This course is suitable for any A level maths teachers who wish to integrate problem solving into their AS/A level teaching.

Content

Introductory problems

- The course starts with some introductory problems designed to help teachers understand the problems students face when starting to develop problem solving skills

What is problem solving and why is it important?

- A chance to think about why it is important for students to develop problem solving skills

Introducing problem solving into the AS/A level maths curriculum

- Some practical ideas for introducing problem solving
- An AS/A level problem bank

Aiming for the top

- University admissions tests - what are they and who asks for them
- Some problems from admissions tests that are suitable for year 12 students

Developing students as problem solvers

- Keeping students going with problem solving throughout an AS/A level course

Suitable sources of problems

- A look at the problem solving materials that are readily available

Eligibility

This course is aimed at teachers from state-funded schools, colleges and academies. Teachers from independent schools are welcome to apply for a place. In this case a place will only be granted if there is availability and no bursary will be paid to the school.

Cost

The course fee of £50 confirms that a teacher will be attending the course. All state funded schools, colleges and academies will receive a bursary of £200 for each teacher from their school/college/academy who attends. This payment is made once the course organiser has confirmed a teacher's attendance. For schools in AMSP priority areas this bursary increases by £50. Bursaries are subject to schools/colleges/academies providing the AMSP with financial information.

Key Facts

Event ref:	#7092
Audience:	Teachers
Curriculum focus:	University admissions tests, A level Mathematics, A level Further Mathematics
Mathematical focus:	Pure, Problem solving
Event format:	Face-to-face Professional Development
Event length:	1 day
Region:	East of England
Venue:	Sir Isaac Newton Sixth Form, The Old Fire Station, 30 Bethel Street, Norwich, Norfolk, NR2 1NR
Date:	Wed 29th Apr 2020
Course times:	09:30 - 15:30
Fee:	£50
State-sector subsidy:	£200
Priority Area subsidy:	£250

Registration

For more information, or to register for this event, please visit https://amsp.org.uk/events/details/7092