

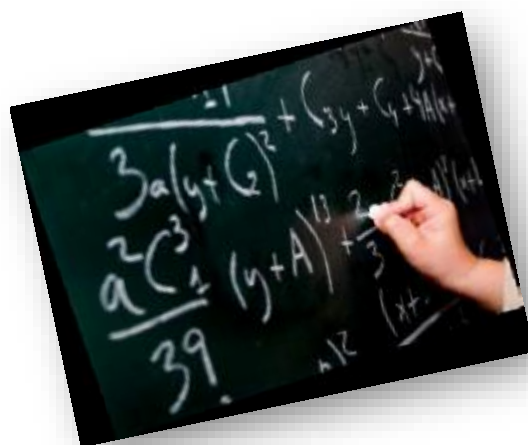
# Maths Problem-Solving Sessions for Sixth Formers

**Year 13 students are invited to join a series of Maths problem-solving sessions taking place on Wednesday from 13:30 to 16:30 at The Exeter Mathematics School starting September 2017 until November 2017.**

The sessions offer students the opportunity to develop their problem-solving skills by trying out challenging problems that require deep mathematical thinking, and so help them achieve the grades they need to get into the university of career their choice.

The problems students will tackle are fun and rewarding. Attending the sessions will enrich students' mathematical experience.

Students will look at problems from a range of sources including MAT(Oxford entrance) and TMUA (Test of Mathematics for University Admissions) papers.



The sessions are not just for students who intend to sit these exams or even just for those planning to study Maths at university, although they are very suitable for students planning to apply for Oxford, Lancaster, Durham or Imperial College for Mathematics rich degrees. They are for anyone who is studying A-level Mathematics and who enjoys solving challenging problems.

The sessions will take place at The Exeter Mathematics School with course tutor Nick Geere.

Funding from the DfE has enabled this series of sessions to be free to students in state funded schools. Students from independent schools are welcome to attend the problem-solving workshops at a cost of £50 per student. Students will be offered refreshments during each session and a problem-solving book.

**WHO?** Year 13 students who enjoy Maths and solving problems.

**WHEN?** Wednesday 13:30 to 16:30 on September 13<sup>th</sup>, \*\*September 20<sup>th</sup>, September 27<sup>th</sup>, October 11<sup>th</sup>, October 18<sup>th</sup>, November 22<sup>nd</sup> and November 29<sup>th</sup>. *The final two sessions will look at mathematical problem solving for university applications and interviews. \*\* this date to be confirmed.*

**WHERE?** The Exeter Mathematics School;  
<http://www.exetermathematicsschool.ac.uk/contact/>

To register students for the classes, then please follow this link:

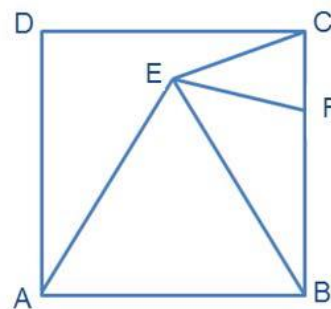
<https://goo.gl/forms/tFhOR42aw4MGeM2E3>

If you have any questions regarding the series of problem solving sessions, please contact [margaretharding@furthermaths.org.uk](mailto:margaretharding@furthermaths.org.uk)

### Some problems for you and your students to try!

These are reproduced with the permission of the United Kingdom Mathematics Trust <http://www.ukmt.org.uk/> and feature in “A Problem Solver’s Handbook” by Andrew Jobbings. All students attending the sessions will receive a free copy of this book.

The diagram shows a square ABCD and an equilateral triangle ABE. The point F lies on BC so that  $EC = EF$ . Calculate the angle FEB.



---

A particular four-digit number  $N$  is such that

- a) the sum of  $N$  and 74 is a square; and
- b) the difference between  $N$  and 15 is also a square.

What is the number  $N$ ?

---