

Big Ideas in A level Mathematics

Aim

Three 1-day courses designed to support teachers in their early years of teaching A level Mathematics looking at some of the big ideas in more depth. The course will give participants a deeper understanding of the concepts underpinning A level Mathematics and an appreciation of how they form a coherent set of ideas.

Dates

All days run from 10am to 4pm.

| | Autumn: Day 1 Algebra | Spring: Day 2 Calculus | Summer: Day 3 Trigonometry |
|------------|-------------------------------------|-------------------------------------|-----------------------------------|
| South East | Friday 26 th November | Friday 11 th February | Friday 20 th May |
| Midlands | Friday 12 th November | Friday 8 th April | Thursday 14 th July |

Venues

South East

The Priory School, Tintagel Road, Orpington, Kent, BR5 4LG

Tel: 01689 819219 <http://www.priory.bromley.sch.uk/>

Contact at venue: Sara Lee sara.lee@staffpriory.co.uk

Midlands

Arthur Terry School, Kittoe Road, Sutton Coldfield, West Midlands, B74 4RZ

Tel: 0121 323 1101 <http://www.arthurterry.bham.sch.uk/>

Contact at venue: Sheena Gordon SGordon@arthurterry.bham.sch.uk

Overview of the three days

Each day will consist of four 60-75 minute sessions, looking at A level concepts in close detail, with teaching ideas, and introducing related topics just outside the scope of A level. The three days are independent of each other. Ideas covered include

Algebra

- The importance of the binomial theorem: infinite series and limits
- Analytical methods for solving cubic and quartic equations
- Proof and multiple representations: graphical and diagrammatical insights
- The fundamental theorem of algebra: the importance of linear and quadratic factors

Calculus

- Continuity and limiting processes
- One rule to differentiate all polynomials
- The fundamental theorem of calculus
- Why natural logarithms really are natural
- Insights into calculus through the use of ICT
- Differential equations: the main reason for studying calculus?

Trigonometry

- Radians
- What exactly is the sine function?
- Evaluating pi to any number of decimal places
- Visualising trigonometric functions: the role of pictures
- Insights into trigonometry through the use of ICT
- Polar coordinates



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Booking Form

Cost: £100 for one day, £180 for two days, £250 for three days

Name:.....

Contact telephone number:

Email address:

Please detail any special dietary requirements:

.....

Please indicate the days and venues you will be attending:

South East : Day 1 Day 2 Day 3

Midlands : Day 1 Day 2 Day 3

Payment details.

Option 1. I enclose a cheque for £100/£180/£250, made payable to MEI.

Option 2. Please invoice my school/college:

Address of School/College:.....

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Telephone Number:.....

Purchase order number (where necessary):

Please return this form to:
Valerie Algar, MEI Office, Monckton House, Epsom Centre, White Horse Business Park, Trowbridge,
Wiltshire. BA14 0XG. Tel 01225 776776 Fax 01225 775755 valerie.algar@mei.org.uk
Places will be confirmed by email.