



Focus of the Month June 2017

Support for students

Our focus for this month is the support that the FMSP provides for students who would benefit from studying AS and A level Further Mathematics. The FMSP provides videos and resources to support students in studying Further Mathematics. Where Further Mathematics is not part of the main provision offered by their school or college the FMSP can provide all or part of the tuition.

FM Videos

For the new AS and A level Further Mathematics, starting in September 2017, we will provide [FM Videos](#) - collections of short pre-recorded videos that introduce students to a topic. There will be around 4-5 videos of 5-10 minutes in length for each section of a topic. The videos will be distributed via [Integral](#) and be freely available to registered schools.

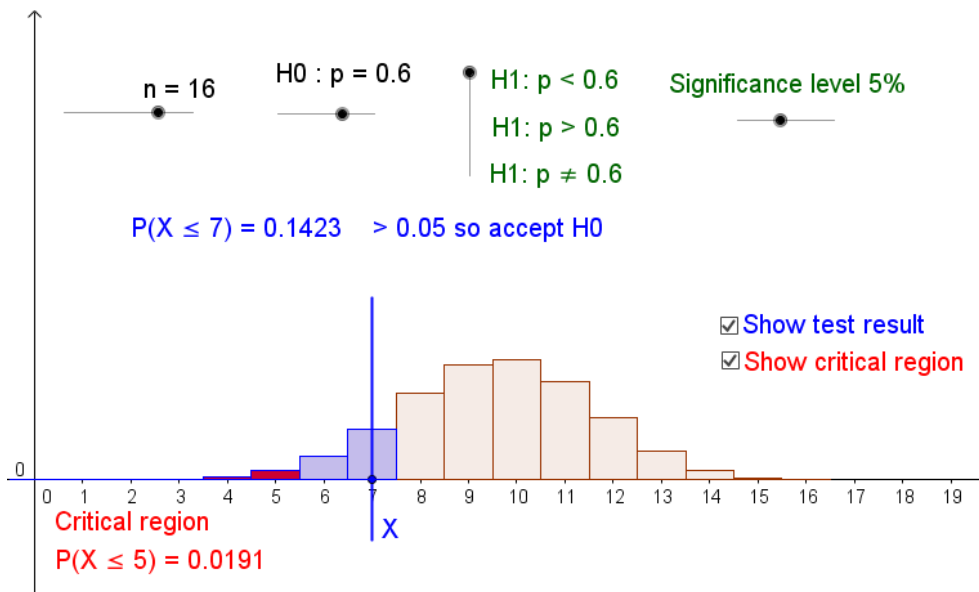
Schools/colleges will also be able to get individual FM Video+ accounts for their students that give access to the videos plus all the Integral resources for Further Mathematics for that specification.

Live Online Tuition (LOT)

Where further support is needed the FMSP provides [Live Online Tuition](#) (LOT): real-time online tutorials to complement the FM Videos. Students log in to an online classroom and can interact with the

"The online classroom has allowed me to study for a course that I would not otherwise have been able to. The system is great... and the microphones, whiteboard and application sharing mean the students can experience classroom style interaction with teachers and students that may be hundreds of miles away."

FMSP tutor during the lessons via live text chat, audio link and a shared electronic whiteboard, using a graphics tablet. In addition the tutor and students can work together on shared mathematics-relevant software such as spreadsheets and GeoGebra, pictured below.



In addition to the online sessions, students are set additional exercises and receive follow up support from their FMSP tutor. Students also have access to [Integral](#) resources, an example of which is shown below.

If $z_1 = -2 + 3i$ calculate $\arg(z_1)$.

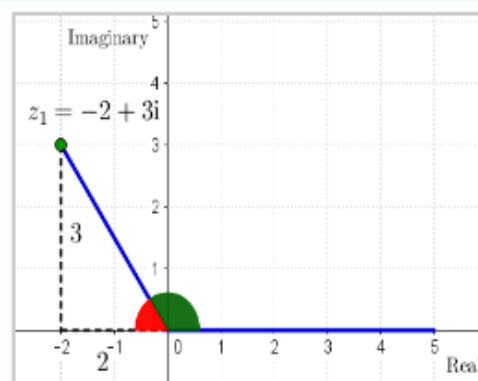
When calculating the argument of a complex number it's always useful to draw a diagram.

The argument of z_1 is the **green** angle shown in the diagram.

One way to calculate this to calculate the **red** angle and then subtract this from π .

Therefore $\arg(z_1) =$

$$\pi - \arctan \frac{3}{2} = 2.16 \text{ rad (to 2 d.p.)}$$



Here is one for you to try.

If $z_2 = 3 - 4i$ calculate $\arg(z_2)$.

Group sizes are small, usually between four and seven students per tutor. Tutors are all experienced teachers of Mathematics and Further Mathematics and are available via email to respond to queries between sessions.

A recording is made of each session so that students can return to and review the material covered at a later date.

"Very grateful to have this service, without it I would not be able to apply for Mathematics at university this coming September!"

Face-to-face tuition

As an alternative to LOT the FMSP can provide [face-to-face tuition](#) in some areas. This involves an expert tutor meeting with the students, either at their own school/college or at a centrally arranged venue. Please contact your local Area Coordinator to find out about provision in your area.

Tuition for legacy students

The FMSP will continue to provide a full programme of tuition for Year 13 students completing legacy qualifications in A level Further Mathematics in 2017-18. This will include face-to-face tuition, LOT and [Live Interactive Lectures for Further Mathematics](#) (LIL FM).

Organising tuition

Your FMSP Area Coordinator is the first point of contact to discuss how best the FMSP can provide tuition support. Contact details for your Area Coordinator can be found on the [regional pages](#) of the FMSP website.