Further Pure Mathematics 1

Complex Numbers

Section 2: The Argand diagram

Study Plan

Background

If you want to place a complex number on a number line, you have a problem. Is 1 + j larger or smaller than 1? Clearly this kind of question just does not make sense. In this section you will learn about the Argand diagram, which provides a way of representing complex numbers geometrically, in two dimensions, in the same way that a number line can represent the real numbers in one dimension. You will also learn how you can use an Argand diagram to represent a set of complex numbers described by an inequality.

Detailed work plan

1. Read the section "Representing complex numbers geometrically". There is an example of finding the modulus of a complex number in the **Notes and Examples**, and some further notes on representing addition and subtraction of complex numbers using vectors. There is also a **Flash resource** to look at.

2. **Exercise 2C**
   Attempt all the questions.

3. Read pages 55 – 57. This is fairly straightforward and is summed up in the **Notes and Examples**. Pay careful attention to the Discussion point which follows Example 2.5. If you have time look at the enrichment example (2.6) as well. There is also a **Flash resource** and an **interactive spreadsheet** looking at loci in the Argand diagram.

4. **Exercise 2D**
   Attempt Questions 1 and 2. If you have time try the starred questions 3 and 4 and the enrichment question 5.