Bishop Heber High School

| Subject | Year | Term |
|---|---|---|
| Further Maths | 12 | 3 |

## Topic

**Volumes of Revolution, Recurrence Relations, Exam Preparation, Complex Numbers, Algorithms & Graph Theory**

## Content (Intent)

**Prior Learning (Topic)** Proof, Vectors, Volumes of Revolution, Critical Path Analysis, Allocation Problems, Flows in Networks, Game Theory

- Recurrence Relations
- Revision And Exam Preparation
- Further Calculus
- Further Algebra & Functions
- Algorithms & Graph Theory

**Future Learning (Topic)** Complex Numbers, Polar Co-ordinates, Algorithms on Graphs, Series, Hyperbolic Functions, Linear Programming, Critical Path Analysis

| What Knowledge and Skills will be taught (Implementation) | How will your understanding be assessed & recorded (Impact) |
|---|---|
| • Calculate volumes of revolution about both the x and y-axes | **AS Further Mathematics Exams in Core & Decision Maths (8FM0/01 & 8FM01/2K)** |
| • Modelling using recurrence relations & solving first order recurrence relations<br>• Revision of all year 12 topics & use of practice and past exam papers. | |
| • Understand how De Moivre's Theorem can be applied in various contexts, such as deriving trigonometric identities.<br>• Know how to find the n'th roots of a complex number, and their connection on an Argand Diagram. | Formal Homework (Core Maths & Decision Maths)<br><br>Ongoing self-assessment |
| • Apply & understand the planarity algorithm for planar graphs | |

## How can parents help at home?

Check assessment record in formal assessed homework books.
Encourage use of MyMaths

## Helpful further reading/discussion (including Reading and Vocabulary Lists)

**Reading**

**Textbooks (ISBN)**
Core Pure Mathematics Book 1: 9781292183336
Decision Mathematics 1: 9781292183299
Decision Mathematics 2: 9781292183305
**Website:** https://qualifications.pearson.com/en/qualifications/edexcel-a-levels/mathematics-2017.html#tab-AlevelFurtherMathematics

**Vocabulary Lists**

Planarity
Planar
Recurrence