# Further Mathematics: Core Pure Topic Questions Spring 2024

taught by Zameer ul-Hassan, David Game College

Yunkai Zhang

# Further Mathematics $\mid$ Core Pure Topic Questions

# Contents

1. Preface	3
2. Proofs	4
3. Complex Numbers	4
4. Matrices	
5. Further Algebra	
6. Further Calculus	
7. Further Vectors	4
8. Polar Coordinates	4
9. Hyperbolic Functions	4
10. Differential Equations	

## 1. Preface

This is a set of topic questions collected from numerous past papers and exercise sheet solutions designed for further mathematics specification in Edexcel's UK A Levels from 2017.

Most questions were selected from official past papers, but not limited to the Edexcel exam board. In fact I would like to avoid use of official UK Edexcel past paper questions from 2018 onwards as they can be used for mocks and would be a valuable source of pre-exam practices. Most questions here are coming from past papers from other exam boards (AQA, OCR, Edexcel IAL, CAIE, AQA International, WJEC, Cambridge Pre-U, etc.) on the same topics as the Edexcel syllabus, or pre-2017 Edexcel questions, as well as other sources online. References to the original source of questions will be included.

For AS students using this material: some of the questions even on AS topics would include A2-only level questions due to the difference between examination specification and the textbook contents. I will try to mark the "A2-only" questions explicitly but there may be questions I'm mismarking or missing. In such cases please let me (or your further maths teacher) know and we can mark the relevant questions. A more convenient way is to use your Github to access this repository and **create a pull request**.

For the situation above and if you find any other mistakes, or you just want to add the questions, or complain about something, you can also **create a pull request** on Github directly from this project's source repository at <a href="https://github.com/YunkaiZhang233/a-level-further-maths-topic-questions-david-game">https://github.com/YunkaiZhang233/a-level-further-maths-topic-questions-david-game</a>.

Contact Information:

Course Lecturer: Zameer ul-Hassan, David Game Colege

Author of this note: Yunkai Zhang, yunkaizhang233@gmail.com.

This document was made by typst, available at <a href="here">here</a>.

# 2. Proofs

**Examinable Contents** 

# 3. Complex Numbers

**Examinable Contents** 

## 4. Matrices

**Examinable Contents** 

## 5. Further Algebra

**Examinable Contents** 

## 6. Further Calculus

**Examinable Contents** except volumes of revolution, *All topics A2 only.* 

## 7. Further Vectors

**Examinable Contents** 

#### 8. Polar Coordinates

Examinable Contents All topics A2 only.

# 9. Hyperbolic Functions

**Examinable Contents** All topics A2 only.

# 10. Differential Equations

**Examinable Contents** All topics A2 only.