



A Level Maths OCR Predicted Papers - How we created these papers

Overview

We have created 4 sets of predicted papers for A level Mathematics, with mark and topic coverage based on the [OCR A Level Mathematics Past Papers](#) provided on their website, along with the content specified in the [OCR A Level Mathematics Specification A](#).

Each physical paper has been designed to look like the OCR paper based exams, with the mark schemes formatted and broken down to be easy to follow.

Format and Marks

Our sets of predicted papers are split up into three papers, resembling that of the OCR format:

- Paper 1 - Pure Mathematics - 100 marks - Calculator
- Paper 2 - Pure Mathematics and Statistics - 100 marks (approx 50 marks for each section) - Calculator
- Paper 3 - Pure Mathematics and Mechanics - 100 marks (approx 50 marks for each section) - Calculator

Further, each paper contains a mix of question types, including short answer questions, single mark questions and multi-step problems.

Some questions are standalone questions, whereas other questions consist of multiple parts and can require using the answer to a previous part of a question, or not. These part questions may vary in the level of demand.

This corresponds to what is seen on the OCR past papers.

Across each paper, we have aimed to have a similar coverage of questions with different numbers of marks of that of the OCR past papers. Therefore, in each paper, there are a range of 1-10 mark single questions (i.e. not the total of a question containing multiple parts).

Distribution of Topics and Skills

The breakdown of topics on each paper has been designed to match that of the OCR past papers.

Paper 1 may contain questions from any topic from the Pure Mathematics content, namely:

- Topic 1.01 – Proof
- Topic 1.02 – Algebra and functions
- Topic 1.03 – Coordinate geometry in the (x, y) plane
- Topic 1.04 – Sequences and series
- Topic 1.05 – Trigonometry
- Topic 1.06 – Exponentials and logarithms
- Topic 1.07 – Differentiation
- Topic 1.08 – Integration
- Topic 1.09 – Numerical methods
- Topic 1.10 – Vectors

Paper 2 contains questions on topics from the Pure Mathematics content in Section A and Statistics content in Section B, namely:

- Section A: Pure Mathematics
 - Topic 1.01 – Proof
 - Topic 1.02 – Algebra and functions
 - Topic 1.03 – Coordinate geometry in the (x, y) plane
 - Topic 1.04 – Sequences and series
 - Topic 1.05 – Trigonometry
 - Topic 1.06 – Exponentials and logarithms
 - Topic 1.07 – Differentiation
 - Topic 1.08 – Integration
 - Topic 1.09 – Numerical methods
 - Topic 1.10 – Vectors
- Section B: Statistics
 - Topic 2.01 – Statistical sampling
 - Topic 2.02 – Data presentation and interpretation
 - Topic 2.03 – Probability
 - Topic 2.04 – Statistical distributions
 - Topic 2.05 – Statistical hypothesis testing

Paper 3 contains questions on topics from the Pure Mathematics content in Section A and Mechanics content in Section B, namely:

- Section A: Pure Mathematics
 - Topic 1.01 – Proof
 - Topic 1.02 – Algebra and functions
 - Topic 1.03 – Coordinate geometry in the (x, y) plane
 - Topic 1.04 – Sequences and series
 - Topic 1.05 – Trigonometry
 - Topic 1.06 – Exponentials and logarithms
 - Topic 1.07 – Differentiation
 - Topic 1.08 – Integration
 - Topic 1.09 – Numerical methods
 - Topic 1.10 – Vectors
- Section B: Mechanics
 - Topic 3.01 – Quantities and units in mechanics
 - Topic 3.02 – Kinematics
 - Topic 3.03 – Forces and Newton’s laws
 - Topic 3.04 – Moments

Additionally, each set has been designed to match the approximate percentage breakdown of Assessment Objectives (AO):

	Assessment Objectives (%)			Total (%)
	AO1	AO2	AO3	
Total for GCE A Level	48-52	23-27	23-27	100

For each paper, we have aimed to increase the mathematical demand as the student progresses through the paper.

Assessment Difficulty

Each of the sets of papers have been designed to match the difficulty of a corresponding OCR A Level Maths Exam series, based off of the following grade boundaries:

Level	A*	A	B	C	D	E	U
Mark	216	161	130	100	70	40	0