Pearson Edexcel Level 3 GCE

May–June 2022 Assessment Window

Syllabus reference **9MA0**

Mathematics

Advanced
Advance Information

You are not permitted to take this notice into the examination.
This document is valid if downloaded from the Pearson Qualifications website.

Instructions

- Please ensure that you have read this notice before the examination.

Information

- This notice covers all examined components.
- The format/structure of the assessments remains unchanged.
- This advance information details the focus of the content of the exams in the May–June 2022 assessments.
- There are no restrictions on who can use this notice.
- This notice is meant to help students to focus their revision time.
- Students and teachers can discuss advance information.
- This document has 5 pages.

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General advice

- In addition to covering the content outlined in the advance information, students and teachers should consider how to:
  - manage their revision of parts of the specification which may be assessed in areas not covered by the advance information
  - manage their revision of other parts of the specification which may provide knowledge that helps with understanding the areas being tested in 2022.
- For specifications with synoptic assessments, topics not explicitly given in the advance information may appear, e.g. where students are asked to bring together knowledge, skills and understanding from across the specification.
- For specifications with optional papers, students should only refer to the advance information for their intended option.
- For specifications with NEA, advance information does not cover any NEA components.

A link to the Joint Council for Qualifications guidance document on advance information can be found on the Joint Council for Qualifications website or here.

Advance Information

Subject specific section

- For each paper, the lists below show the major focus of the content of the exams.
- Questions will be drawn from one or more of these areas of the specification content.
- The aim should still be to cover all specification content in teaching and learning.
- The information is presented in approximate specification order and not in question order.

Paper 9MA0/01 Pure Mathematics 1

- Formal proof
- The factor theorem
- Understand and use graphs of functions
- Use intersection points of graphs to solve equations
- Transformations of a curve
- Use of functions in modelling
- The coordinate geometry of the circle
- Arithmetic sequences and series
- Differentiation: stationary points, minima. Radian measure
- Trigonometric identities and equations
- Trigonometric functions and identities: area under a curve
- Exponentials: Solving equations, rate of change
- Maximum point; iteration
- Integration as a limit
- Methods of integration
- Use vectors to solve a problem in pure mathematics

Paper 9MA0/02 Pure Mathematics 2

- Formal proof
- The modulus of a linear function
- Understand and use function notation
- The binomial expansion
- Sequence generated by an iterative formula
- Geometric sequences and series; trigonometric identities
- Use of a trigonometric function
- The function a^x and its graph
- Differentiation; roots of equations
- Differentiation from first principles
- Find maximum and minimum points; Newton- Raphson method
- Differentiation of curves defined parametrically
- Area under a curve
- Solution of a first order differential equation; partial fractions
- The trapezium rule
- Use vectors to solve problems in pure mathematics

Paper 9MA0/31 Statistics

- Regression lines (change of variable); hypothesis test for correlation
- Measures of central tendency and variation
- Probability and Venn diagrams
- Discrete probability distributions; normal approximation
- Normal distribution
- Hypothesis testing

Paper 9MA0/32 Mechanics

- Constant acceleration in 2-D and Newton's 2nd law in 2-D using vectors
- Variable acceleration, language of kinematics
- Projectiles, constant acceleration
- Dynamics, resolving forces, friction, equilibrium
- Statics, moments, resolving forces, friction

END OF ADVANCE INFORMATION