

Pearson Edexcel International GCSE

May–June 2022 Assessment Window

Syllabus
reference

4PM1

Further Pure Mathematics **Advance Information** **Version 2**

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 the advance information.
- This document has 15 pages.

There are two option codes for this qualification. Some centres will enter for option “R”, depending on their location – if you’re unsure if your centre uses option “R” papers you should contact your centre who can confirm and check the [Information Manual](#). Please ensure you consult the advance information relevant to the option code used within your centre. Information related to the “R” option is indicated by an “R” after the paper number, e.g. 4PM1/02R or Paper 2R.

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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 which 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/topics/content, 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

- Advance information will be provided for each paper and for each tier of entry.
- The information is presented in approximate specification order and does not reflect the order of the questions.
- Questions may be answerable using one or more of the indicated areas of specification content.
- The areas of content listed are suggested as key areas of focus for revision and final preparation, in relation to the May–June 2022 examinations.
- The aim should still be to cover all specification content in teaching and learning.
- Students may need to draw on prior knowledge and skills.
- Students will still be expected to apply their knowledge to unfamiliar contexts.
- Students responses to questions may draw upon knowledge, skills and understanding from across the content listed when responding to questions.
- Students will be credited for using any relevant knowledge from any other topic areas when answering questions.

Paper 01 – grouped by content area

Logarithmic functions and Indices	
Graphs	Graph of a^x
Logarithms and indices	Properties of indices
	Properties of logarithms
Other	Surds
The quadratic function	
Equations	Solving quadratic equations
Identities and inequalities	
Manipulation	Factor and remainder theorem
	Simple algebraic division
Equations	Simultaneous equations, linear and quadratic
	Solutions of equations
	Cubic equation
Graphs	
	Solution of equations
Series	
	Geometric series
The binomial series	
	Expansion
Scalar and vector quantities	
	Addition and subtraction of vectors

Calculus

Differentiation

Stationary points

Rates of change

Integration

Integration of polynomials

Area under a curve

Trigonometry

Sine and cosine rule

Use of $\frac{1}{2}ab\sin C$

Paper 02 – grouped by content area

Logarithmic functions and Indices	
Logarithms and indices	Properties of logarithms
The quadratic function	
Manipulation	Discriminant
Equations	Solving quadratic equations
Roots	Roots of equations
Identities and inequalities	
Equations	Solution of equations
	Cubic equation
Inequalities	Quadratic inequality
Graphs	
	Rational functions
Scalar and vector quantities	
	Addition and subtraction of vectors
	Position vectors
	Magnitude of vectors
	Unit vectors
Rectangular Cartesian coordinates	
	Finding equations of lines
	Point dividing a line in a given ratio
	Parallel and perpendicular lines

Calculus

Differentiation

Linear kinematics

Stationary points

Differentiation of products and quotients

Equations of tangents and normals

Integration

Integration of trigonometric functions

Volume of revolution

Trigonometry

Use of radians for arcs and sectors

Identities

Solving trigonometric equations

Addition formulae

Paper 01 and 02 combined – grouped by content area

Logarithmic functions and Indices	
Graphs	Graph of a^x
Logarithms and indices	Properties of indices
	Properties of logarithms
Other	Surds
The quadratic function	
Manipulation	Discriminant
Equations	Solving quadratic equations
Roots	Roots of equations
Identities and inequalities	
Manipulation	Factor and remainder theorem
	Simple algebraic division
Equations	Simultaneous equations, linear and quadratic
	Solutions of equations
	Cubic equation
Inequalities	Quadratic inequality
Graphs	
	Solution of equations
	Rational functions
Series	
	Geometric series
The binomial series	
	Expansion

Scalar and vector quantities

	Addition and subtraction of vectors
	Position vectors
	Magnitude of vectors
	Unit vectors

Rectangular Cartesian coordinates

	Finding equations of lines
	Point dividing a line in a given ratio
	Parallel and perpendicular lines

Calculus

Differentiation	Linear kinematics
	Stationary points
	Rates of change
	Differentiation of products and quotients
	Equations of tangents and normals
Integration	Integration of polynomials
	Area under a curve
	Integration of trigonometric functions
	Volume of revolution

Trigonometry

	Sine and cosine rule
	Use of $\frac{1}{2}ab\sin C$
	Use of radians for arcs and sectors
	Identities
	Solving trigonometric equations
	Addition formulae

Paper 01R – grouped by content area

Logarithmic functions and Indices	
Graphs	Graph of $\log_b x$
Logarithms and indices	Properties of logarithms
Other	Surds
The quadratic function	
Equations	Solving quadratic equations
Roots	Roots of equations
Identities and inequalities	
Inequalities	Linear and quadratic inequalities
Series	
	Arithmetic series
The binomial series	
	Expansion
Scalar and vector quantities	
	Addition and subtraction of vectors
Rectangular Cartesian coordinates	
	Finding equations of lines
	Parallel and perpendicular lines
	Point dividing a line in a given ratio
	Distance between points

Calculus

Differentiation

Linear kinematics

Differentiation of products and quotients

Differentiation of function of a function

Integration

Integration of trigonometric functions

Area under a curve

Trigonometry

Use of radians for arcs and sectors

Use of $\frac{1}{2}ab\sin C$

Sine and cosine rule

Addition formulae

Paper 02R – grouped by content area

Logarithmic functions and Indices	
Graphs	Graph of a^x
Logarithms and indices	Properties of logarithms
The quadratic function	
Manipulation	Discriminant
Equations	Solving quadratic equations
Identities and inequalities	
Manipulation	Factor and remainder theorem
	Simple algebraic division
Graphs	
	Rational functions
	Solution of equations
Series	
	Geometric series
The binomial series	
	Expansion
Scalar and vector quantities	
	Addition and subtraction of vectors
	Position vectors
	Magnitude of a vector
Rectangular Cartesian coordinates	
	Finding equations of lines
	Parallel and perpendicular lines

Calculus

Differentiation

Connected rates of change

Differentiation of products and quotients

Equations of tangents and normals

Stationary points

Integration

Integration of exponential functions

Area under a curve

Trigonometry

3-D trigonometry

Solving trigonometric equations

Identities

Paper 01R and 02R combined – grouped by content area

Logarithmic functions and Indices	
Graphs	Graph of $\log_b x$
	Graph of a^x
Logarithms and indices	Properties of logarithms
Other	Surds
The quadratic function	
Manipulation	Discriminant
Equations	Solving quadratic equations
Roots	Roots of equations
Identities and inequalities	
Manipulation	Factor and remainder theorem
	Simple algebraic division
Inequalities	Linear and quadratic inequalities
Graphs	
	Rational functions
	Solution of equations
Series	
	Arithmetic series
	Geometric series
The binomial series	
	Expansion
Scalar and vector quantities	
	Addition and subtraction of vectors
	Position vectors
	Magnitude of a vector

Rectangular Cartesian coordinates

Finding equations of lines

Parallel and perpendicular lines

Point dividing a line in a given ratio

Distance between points

Calculus

Differentiation

Linear kinematics

Connected rates of change

Differentiation of products and quotients

Differentiation of function of a function

Equations of tangents and normals

Stationary points

Integration

Integration of trigonometric functions

Integration of exponential functions

Area under a curve

Trigonometry

Use of radians for arcs and sectors

Use of $\frac{1}{2}ab\sin C$

Sine and cosine rule

Addition formulae

3-D trigonometry

Solving trigonometric equations

Identities

END OF ADVANCE INFORMATION