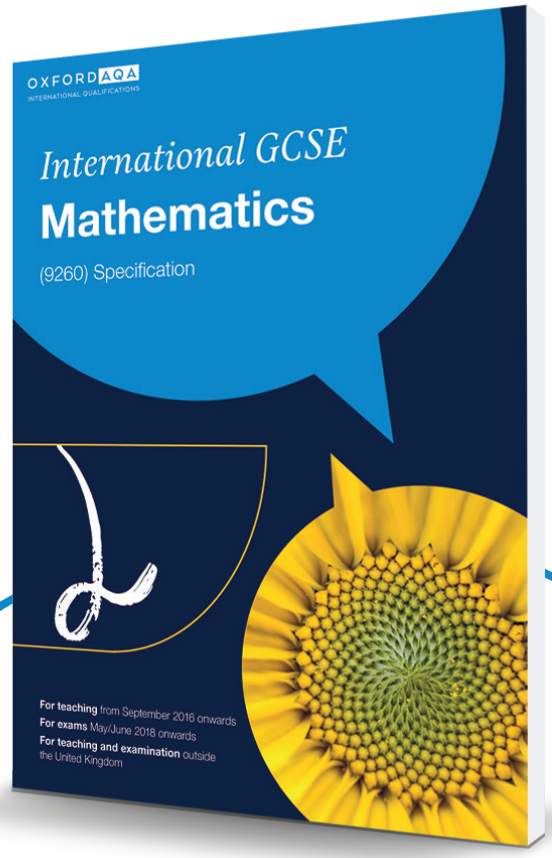
OXFORD AQA
INTERNATIONAL QUALIFICATIONS

Switching Guide

International GCSE
Mathematics
(9260)



Switching from Pearson Edexcel or Cambridge International to OxfordAQA International Qualifications

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we put fairness first

OXFORD AQA
INTERNATIONAL QUALIFICATIONS

The international exam board *that puts fairness first*

Switching to OxfordAQA International GCSE Mathematics (9260)

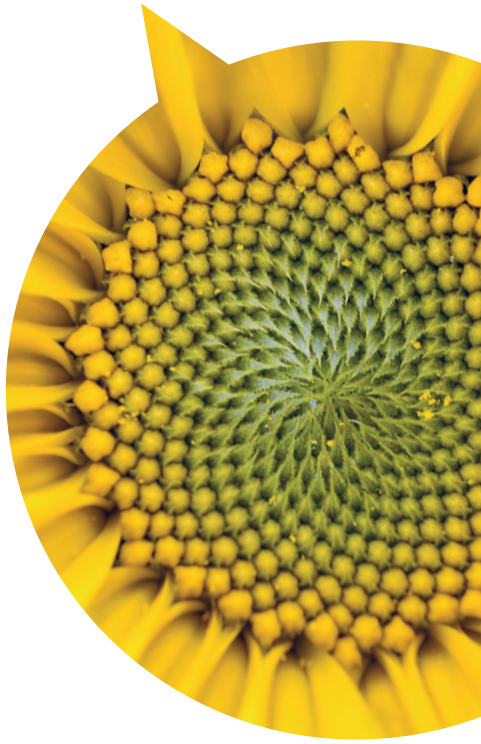
Our **OxfordAQA International GCSE Mathematics** qualification puts emphasis on pure maths, enabling students to make a smooth progression to A-level. The specification includes plenty of algebra and some basic calculus.

Written by the same experts who developed AQA's UK Mathematics GCSE, this qualification is rigorous and quality assured as well as accessible for international students. It features careful ramping of demand throughout the papers to settle students of all abilities into their assessments.

Teachers will find the specification makes International GCSE Mathematics enjoyable and provides the right level of challenge. It allows a freedom to teach mathematics in a variety of ways and incorporates key themes and concepts throughout.

Key features:

- The vocabulary of the exam questions is carefully chosen so that students are rewarded for what they can do, rather than their English ability.
- Content is introduced in a simple and logical order, with careful stepping up of demand and progression to A-level.
- Enables students to connect their learning to the real world and apply their knowledge to solve problems.



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Topic by topic comparison

OxfordAQA specification (9260)	Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
High level view of content		
The specification is split into four topics: • Number • Algebra • Geometry and measure • Statistics and probability	**The specification is split into four topics:** • Number • Algebra • Geometry and measure • Statistics and probability	**The specification is split into nine topics:** • Number • Algebra and graphs • Geometry • Mensuration • Coordinate geometry • Trigonometry • Matrices and transformations • Probability • Statistics
Tiering		
There are two tiers of entry; Core (grades 1–5) and Extension (grades 4–9).	There are two tiers of entry; Foundation (grades 1–5) and Higher (grades 4–9).	There are two tiers of entry; Core (grades G–C) and Extended (grades E–A*).
Assessment		
In each tier there are two exams, which are equally weighted. At Core, each paper has 80 marks and is 1 hour 30 minutes in length. At Extension, each paper has 100 marks and is 2 hours in length. All papers can cover content from any part of the specification. Students answer all questions.	In each tier there are two exams, which are equally weighted. At each tier, each paper has 100 marks and is 2 hours in length Both papers can cover content from any part of the specification. Students answer all questions.	In each tier there are two papers; Paper 1 is worth 35% of the total award and paper 2 is worth 65% At Core tier, Paper 1 has 56 marks and is 1 hour in engths, while the second paper (Paper 3) has 104 marks and is 2 hours in length. At Extended tier, the first paper (Paper 2) has 70 marks and is 1 hour 30 minutes in length, while the second paper (Paper 4) has 130 marks and is 2 hours 30 minutes in length.

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Each paper contains a mix of question styles, from short, single mark questions to multistep problems. The mathematical demand increases as a student progresses through the paper.	Each paper contains a mix of question styles, from short, single mark questions to multistep problems.	The first paper in each tier has short-answer questions, while the second paper has structured questions.
Assessment Objectives		
AO1: Recall and use knowledge of the prescribed content for routine and multistep problems. AO2: Apply mathematical skills, knowledge and reasoning: • To solve problems including justification and proof • To communicate, infer and deduce. At each tier, approximately 60% of the marks are at AO1 and 40% at AO2.	AO1: Demonstrate knowledge, understanding and skills in number and algebra: • Numbers and the numbering system • Calculations • Solving numerical problems • Equations, formulae and identities • Sequences, functions and graphs. AO2: Demonstrate knowledge, understanding and skills in shape, space and measures: • geometry and trigonometry • vectors and transformation geometry. AO3: Demonstrate knowledge, understanding and skills in handling data: • Statistics • Probability. At both tiers, AO1 accounts for approximately 60% of the marks, AO2 for 25% and AO3 for 15%. At Foundation tier, 60% of the marks assess standard techniques, 25% assess problem solving and 15% assess mathematical reasoning. At Higher tier, and in specification B, the percentages are 50%, 30% and 20% respectively.	AO1: Mathematical techniques: • Organise, interpret and present information accurately in written, tabular, graphical and diagrammatic forms • Perform calculations by suitable methods • use an electronic calculator and also perform some straightforward calculations without a calculator • Understand systems of measurement in everyday use and make use of them in the solution of problems • Estimate, approximate and work to degrees of accuracy appropriate to the context and convert between equivalent numerical forms • Use mathematical and other instruments to measure and to draw to an acceptable degree of accuracy • Interpret, transform and make appropriate use of mathematical statements expressed in words or symbols • Recognise and use spatial relationships in two and three dimensions, particularly in solving problems • Recall, apply and interpret mathematical knowledge in the context of everyday situations. AO2: Applying mathematical techniques to solve problems: • Make logical deductions from given mathematical data • Recognise patterns and structures in a variety of situations, and form generalisations

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		• Respond to a problem relating to a relatively unstructured situation by translating it into an appropriately structured form • Analyse a problem, select a suitable strategy and apply an appropriate technique to obtain its solution • Apply combinations of mathematical skills and techniques in problem solving • Set out mathematical work, including the solution of problems, in a logical and clear form using appropriate symbols and terminology. At Core tier, approximately 80% of the marks are at AO1 and approximately 20% at AO2. At Extended tier, approximately 45% of the marks are at AO1 and approximately 55% at AO2.

Topic by topic

As you would expect, much of the content of GCSE mathematics is common to all three awarding organisations. Where there are differences, these are highlighted below along with a rationale explaining why OxfordAQA has chosen to exclude or include particular content. For a comprehensive breakdown of all content in the OxfordAQA GCSE, please refer to the International GCSE Mathematics teaching guidance document on our website. This articulates the scope of teaching required for each part of the specification.

3.1 Number

OxfordAQA Core	OxfordAQA Extension	Differences in Pearson Edexcel specification (4MA1)	Differences in Cambridge specification (0580)
N1			
Order positive and negative integers, decimals and fractions. Use the symbols =, ≠, <, >, ≤, ≥		Content is common to all three awarding organisations	Content is common to all three awarding organisations

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
N2			
Apply the four operations, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative. Understand and use place value (eg when working with very large or very small numbers, and when calculating with decimals).			
N3			
Recognise and use relationships between operations, including inverse operations (eg cancellation to simplify calculations and expressions). Use conventional notation for priority of operations, including brackets, powers, roots and reciprocals.		Content is common to all three awarding organisations	Content is common to all three awarding organisations

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
N4			
Use the concepts and vocabulary of even, odd and prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation.			This specification includes the definition of rational and irrational numbers in the Extended Tier. **OxfordAQA believes that this delineation is unnecessary at GCSE level.**
N5			
Use positive integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5.		Content is common to all three awarding organisations	Content is common to all three awarding organisations
N6			
Index laws for multiplication and division using integer powers.	Including fractional powers.		
N7			
Calculate exactly with fractions.	Calculate exactly with surds. Manipulation and simplification of surds including rationalising a denominator.		Calculation with and manipulation and simplification of surds is not assessed in this specification. **OxfordAQA regards this work with surds as an essential Extension tier skill. It reinforces the concept of an exact value and as such is very important for further study.**

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
N8			
Calculate with and interpret standard form A × 10n, where 1 ≤ A < 10 and n is an integer.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
N9			
Use language and notation of sets including n(A), A', A∪B, A∩B, ξ Understand and use Venn diagrams to solve problems.		This specification includes the use of the 'element' and 'not an element' symbols ∈∪ and ∉ and the symbol for the null set ∅ **OxfordAQA believes that these concepts are not required at this level in order to understand and use Venn diagrams to solve problems.**	This specification has set notation and Venn diagrams on the Extended tier only. It also includes the understanding and terminology of subsets. **OxfordAQA believes that having an application of this ordering representation helps students of average ability to appreciate their use, but that the use of subsets is very technical and unnecessary at GCSE.**
N10			
Use calculators effectively and efficiently including trigonometrical functions.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
N11			
Round numbers and measures to an appropriate degree of accuracy (eg to a specified number of decimal places or significant figures). Apply and interpret limits of accuracy. Use estimations to work out approximate answers to calculations.	Calculate and use upper and lower bounds.	Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
N12			
Understand and use equivalent fractions, understand and use percentages, convert between fractions, terminating decimals and percentages.	Convert between fractions and recurring decimals.	Conversion between fractions and recurring decimals is assessed in the Foundation tier. **OxfordAQA believes that this is not suitable for Foundation students.**	Conversion between fractions and recurring decimals is assessed in the Foundation tier. **OxfordAQA believes that this promotes understanding of the intrinsic difference between terminating and recurring decimals for students in the Extension tier.**
N13			
Interpret fractions, decimals and percentages as operators.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
N14			
Express one quantity as a fraction/percentage of another, where the fraction is less than 1 or greater than 1 or the percentage is less than 100 or greater than 100.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
N15			
Solve problems involving percentage change, including increase/ decrease, simple interest and compound interest.	Reverse percentage problems. Knowledge and use of the compound interest formula value of investment = $P(1 + \frac{r}{100})^n$ where P is the amount invested, r is the percentage rate of interest and n is the number of years of compound interest.		This specification has compound interest at extended tier only. **OxfordAQA believes that all students should know how investments work in real life.**
N16			
Use ratio notation, including reduction to simplest form and links to fraction notation.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
N17			
Divide a quantity in a given ratio.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
N18			
Apply ratio to solve problems.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
N19			
Use common measures of rate, including calculating rates of pay and best-buy problems.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
N20			
Solve problems involving direct and inverse proportion including repeated proportional change	Exponential growth and decay.	Inverse proportion and repeated proportional change are not assessed at Foundation tier. **OxfordAQA believes that including inverse proportion should increase a student's understanding of ratio, which is very important in the study of mathematics at this level. The contexts of speed, distance and time can provide relatively straightforward examples; similarly, the power of repeated proportional change can be seen in examples such as compound interest and bouncing balls. These problems can be solved with the efficient use of a calculator.** Exponential growth and decay is not assessed. **OxfordAQA believes that this extends the work on repeated proportional change and is very useful for providing a link between GCSE and A-level.**	Content is common to all three awarding organisations.

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
3.2 Algebra			
A1			
Use letters to express generalised numbers and express basic arithmetic processes algebraically.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
A2			
Substitute numbers for words and letters in formulae and transform simple formulae.	Transform complex formulae including when the subject appears twice.		
A3			
Understand and use the concepts of expressions, equations, formulae, identities, inequalities, terms and factors.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
A4			
Collecting like terms and expanding brackets up to expanding products of two linear expressions.	Expanding products of two or three binomials.		The expansion of three binomials is not assessed. **OxfordAQA believes that this further process is useful preparation for algebra at AS and A-level.**
A5			
Taking out common factors, factorising quadratic expressions of the form $x^2 + bx + c$ including the difference of two squares.	Factorising quadratic expressions of the form $ax^2 + bx + c$ including the difference of two squares.		

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
A6			
Index laws for multiplication and division using integer powers.	Including fractional powers.		
A7			
Manipulation of rational expressions: use of + − × ÷ for algebraic fractions with denominators being numeric.	Linear or quadratic algebraic expressions.		
A8			
Argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments.	To include proofs.		This topic is not assessed. **OxfordAQA believes that all students should have this experience of how algebra can be used to support an argument, and that Extension tier students should have experience of formal algebraic proof.**
A9			
Interpret simple expressions as functions with inputs and outputs.	Definition of a function, use function notation of the form $f(x) = \ldots$, understand and use the terms domain and range, understand and find the composite function fg and the inverse function f^{-1}		This topic is not assessed. **OxfordAQA believes that all students should have this experience of how algebra can be used to support an argument, and that Extension tier students should have experience of formal algebraic proof.**

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
A10			
Work with coordinates in all four quadrants.			
A11			
Plot graphs of equations that correspond to straight line graphs in the coordinate plane Use the form $y = mx + c$ Identify and interpret gradients and intercepts of linear functions graphically and algebraically understand the gradients of parallel lines.	Find the equation of the line through two given points, or through one point with a given gradient. Understand and use the gradients of perpendicular lines.	Interpreting the gradients and intercepts of straight lines is not assessed at Foundation tier. **OxfordAQA believes that this skill allows students to understand the use of straight lines in real-life contexts and therefore apply their knowledge to solve problems.**	
A12			
Recognise, sketch and interpret graphs of linear functions and quadratic functions including simple cubic functions and the reciprocal function $y = \frac{1}{x}$ with $x \neq 0$	Including exponential functions $y = k^x$ for positive values of k, and the trigonometric functions (with arguments in degrees) $y = \sin x$, $y = \cos x$, $y = \tan x$ for angles of any size	Only linear and quadratic functions are assessed at Foundation Tier. **OxfordAQA believes that including the cubic and eciprocal functions helps students to delineate between the various graphs.** Exponential functions are not assessed. **OxfordAQA believes that this topic links well with N20 and helps reinforce the concept of 'limiting value'.**	Cubic functions are not assessed at Core Tier. **OxfordAQA believes that including the cubic function helps students to delineate between the various graphs.** Graphs of the trigonometric functions are not assessed. **OxfordAQA believes that this topic helps students understand the concept of angles any size and repares them for further study in Mathematics.**

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
A13			
	Understand and use the gradient function $\frac{dy}{dx}$ differentiation of kx^n where n is a positive integer or 0, and the sum of such functions.	Pearson Edexcel includes at Higher tier the topic 'apply calculus to linear kinematics and to other simple practical problems'. **Like OxfordAQA, Pearson Edexcel assesses instantaneous rate of change, for which students require an understanding of differentiation and stationary points. This builds on the work of functions and graphs. However, OxfordAQA believes that the application of calculus to kinematics requires quite sophisticated understanding of the difference between displacement and distance, etc, (i.e. an understanding of the vector nature of this application), and is therefore more suited to AS study of vectors and mechanics.**	
A14			
	Know that the gradient of a function is the gradient of the tangent at that point. Work out the equation of a tangent at any point on a curve.	Working out the equation of a tangent at any point on a curve is not assessed. **OxfordAQA believes that this topic continues straight line work and reinforces the concept of an instantaneous rate of change.**	Working out the equation of a tangent at any point on a curve is not assessed. **OxfordAQA believes that this topic continues straight line work and reinforces the concept of an instantaneous rate of change.**

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
A15			
	Use of differentiation to find stationary points on a curve: maxima, minima and points of inflection. Sketch a curve with known stationary points.		Calculus is not assessed. **The OxfordAQA calculus section builds on the ideas of limiting values, functions and graph sketching. The topic is quite succinct, but provides an excellent introduction for students considering further study of AS or A-level Mathematics.**
A16			
Identify and interpret roots, intercepts and turning points of quadratic functions graphically. Deduce roots algebraically.	Deduce turning points by completing the square.	This topic is not tested at Foundation Tier. **OxfordAQA believes that knowing the link between functions and equations is an important concept and helps all students understand that the roots of equations can be obtained graphically as well as algebraically.**	
A17			
Plot and interpret graphs, and graphs of non-standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance, speed and acceleration. Interpret the gradient of a straight-line graph as a rate of change.	Calculate or estimate gradients of graphs and areas under graphs (including quadratic and other non-linear graphs), and interpret results in cases such as distance-time graphs and velocity-time graphs.		

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
A18			
	Express direct and inverse variation in algebraic terms and use this form of expression to find unknown quantities		
A19			
Solve linear equations in one unknown algebraically. Find approximate solutions using a graph		'Find approximate solutions using a graph' is not tested at Foundation Tier. **OxfordAQA believes that knowing the link between functions and equations is an important concept and helps all students understand that the roots of equations can be obtained graphically as well as algebraically.**	
A20			
Solve quadratic equations algebraically by factorizing. Find approximate solutions using a graph.	Including completing the square and by using the quadratic formula.	'Find approximate solutions using a graph' is not tested at Foundation Tier. **OxfordAQA believes that knowing the link between functions and equations is an important concept and helps all students understand that the roots of equations can be obtained graphically as well as algebraically.**	Solving quadratic equations by factorising is in the Extended tier only. **OxfordAQA believes that all students need to understand and use this algebraic procedure to solve problems.**
A21			
Solve two linear simultaneous equations in two variables algebraically. Find approximate solutions using a graph	Including one linear and one quadratic.	'Find approximate solutions using a graph' is not tested at Foundation Tier. **OxfordAQA believes that knowing the link between functions and equations is an important concept and helps all students understand that the roots of equations can be obtained graphically as well as algebraically.**	

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
A22			
Translate simple situations or procedures into algebraic expressions or formulae. Derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
A23			
Solve linear inequalities in one variable. Represent the solution on a number line.	Solve linear inequalities in one or two variable(s), and quadratic inequalities in one variable. Represent the solution set on a number line and on a graph.	Representing linear inequalities in two variables is included at Foundation tier. **OxfordAQA believes that as students find inequalities very difficult it is better to restrict this to the Higher tier.**	The solution of quadratic inequalities is not assessed. **OxfordAQA believes that this topic links effectively to quadratic functions and equations and is useful preparation for AS and A-level.**
A24			
Generate terms of a sequence from either a term-to-term or a position-to-term rule.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
A25			
Recognise and use sequences of triangular, square and cube numbers and simple arithmetic progressions.	Including quadratic sequences.	Quadratic sequences are not assessed. **OxfordAQA believes that this topic gives students further algebraic practice with quadratic functions, which is very useful for those students intending to study the subject further.**	

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
A26			
Deduce expressions to calculate the nth term of linear sequences.	Including quadratic sequences.	Quadratic sequences are not assessed. **OxfordAQA believes that this topic gives students further algebraic practice with quadratic functions, which is very useful for those students intending to study the subject further.**	The nth term of quadratic and cubic sequences are assessed at Core tier. **OxfordAQA believes that this is unnecessarily complex for students at this level.**
3.3 Geometry and measures			
G1			
Use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons and regular polygons.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
G2			
Recall and use properties of angles at a point, angles at a point on a straight line including right angles and perpendicular lines; vertically opposite angles.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
G3			
Understand and use the angle properties of parallel and intersecting lines, triangles and quadrilaterals.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
G4			
Calculate and use the sums of the interior and exterior angles of polygons.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
G5			
Recall the properties and definitions of special types of quadrilateral, including square, rectangle, parallelogram, trapezium, kite and rhombus.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
G6			
Recognise reflection and rotation symmetry of 2D shapes.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
G7			
Understand congruence and similarity. Calculate lengths of similar figures.	Understand and use conditions for congruent triangles.		

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
G8			
Identify and apply circle definitions and properties, including: centre, radius, chord, diameter, circumference including: tangent, arc, sector and segment.	Apply the standard circle theorems concerning angles, radii, tangents and chords, and use them to prove related results.	The following circle theorems are included at Foundation tier: • Two tangents from a point to a circle are equal in length. • Tangents are perpendicular to the radius at the point of contact. • The line from the centre of a circle which is perpendicular to a chord bisects the chord (and the converse). **OxfordAQA believes that the reasoning and proof skills required for all circle theorems are unsuitable for Core tier students. Consequently these theorems are on the Extension tier only.**	The following circle theorems are included at Core tier: • Angle in a semicircle. • Angle between tangent and radius of a circle. **OxfordAQA believes that the reasoning and proof skills required for all circle theorems are unsuitable for Core tier students. Consequently these theorems are on the Extension tier only.**
G9			
	Geometrical reasoning and proof: use standard theorems to justify results in geometric contexts.	The 'intersecting chords' theorem is included. **AQA assessed this topic in the Linked Pair 'Methods in Mathematics' GCSE, and students found it extremely challenging. As such, OxfordAQA believes that there is no good reason to include this stand-alone topic in this qualification.**	This topic is not assessed. **OxfordAQA believes Extension tier students should have experience of formal geometric proof.**
G10			
OxfordAQA believes Extension tier students should have experience of formal geometric proof.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
G11			
Interpret plans and elevations of 3D shapes. Construct and interpret plans and elevations of 3D shapes.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
G12			
Measure line segments and angles in geometric figures, including interpreting maps and scale drawings and use of scale factors and bearings.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
G13			
Use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle, constructing an angle of 60°). Use these to construct given figures and solve loci problems. Know that the perpendicular distance from a point to a line is the shortest distance to the line.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
G14			
Use standard units of measure and related concepts (length, area, volume/capacity, mass, time, money etc); change freely between related standard units (eg time, length, area, volume/ capacity, mass) and compound units (eg speed and density).		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
G15			
Know and apply formulae to calculate: area of triangles, parallelograms, trapezia; volume of 3D shapes using $V = Ah$ where A is the constant cross sectional area and h is the height/length.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
G16			
Know and use the formulae: Circumference of a circle = $2\pi r = \pi d$ Area of a circle = πr^2 Calculate perimeters and areas of 2D shapes, including composite shapes.	Surface area and volume of spheres, pyramids, cones and composite solids including composite shapes and frustums of pyramids and cones.		

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
G17			
	Use the relationships between lengths, areas and volumes in similar figures		
G18			
	Calculate arc lengths, angles and areas of sectors of circles.		
G19			
Know the formula for: Pythagoras' theorem $a^2 + b^2 = c^2$ and the trigonometric ratios for $\sin\theta = \frac{opposite}{hypotenuse}$ $\cos\theta = \frac{adjacent}{hypotenuse}$ $\tan\theta = \frac{opposite}{adjacent}$ Apply them to find lengths and angles in right-angled triangles in two-dimensional figures.	Including 3D figures.		

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
G20			
	Know and apply the sine rule, $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$ and cosine rule $a^2 = b^2 + c^2 - 2bc\cos A$ to find unknown lengths and angles. Know and apply Area = $\frac{1}{2}ab\sin C$ *to calculate the area, sides or angles of any triangle.*		
G21			
Describe and transform 2D shapes using single rotations, reflections, translations or enlargements by a positive scale factor and distinguish properties that are preserved under particular transformations. Translations will be specified by a vector.	Including combined transformations and enlargements by fractional and negative scale factors.	Translation vectors are not used in Foundation tier. **OxfordAQA believes that in the simple context of translation all students can understand that a vector gives size and direction.**	

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
G22			
	Understand and use vector notation; calculate and represent graphically the sum of two vectors, the difference of two vectors and a scalar multiple of a vector; understand and use the commutative and associative properties of vector addition; solve simple geometrical problems in 2D using vector methods.		
G22			
	Understand and use vector notation; calculate and represent graphically the sum of two vectors, the difference of two vectors and a scalar multiple of a vector; understand and use the commutative and associative properties of vector addition; solve simple geometrical problems in 2D using vector methods.		

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
G23			
	Multiplications of matrices.	Matrices are not assessed **OxfordAQA believes that the algebraic content assessed within the 'Matrices' topic provides excellent practice of skills required at A-level, and the transformation work builds on that which is found in the Core tier.**	There is much more matrix content in this specification, including the determinant and inverse of a 2 × 2 matrix. **OxfordAQA believes that this fairly abstract work is unnecessary at GCSE.**
G24			
	The identity matrix, **I**	Matrices are not assessed **OxfordAQA believes that the algebraic content assessed within the 'Matrices' topic provides excellent practice of skills required at A-level, and the transformation work builds on that which is found in the Core tier.**	
G25			
	Transformations of the unit square in the *x* - *y* plane.	Matrices are not assessed **OxfordAQA believes that the algebraic content assessed within the 'Matrices' topic provides excellent practice of skills required at A-level, and the transformation work builds on that which is found in the Core tier.**	
G26			
	Combination of transformations.		

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
3.4 Statistics and Probability			
S1			
Understand and use qualitative, discrete and continuous data, including grouped and ungrouped data.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
S2			
Extract data from printed tables and lists.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
S3			
Design and use two-way tables for grouped and ungrouped data.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
S4			
Produce charts and diagrams for various data types; scatter graphs, stem-and-leaf, tally charts, pictograms, bar charts, dual and composite bar charts, pie charts, line graphs, frequency polygons, histograms with equal class intervals.	Histograms with unequal class intervals, cumulative frequency diagrams, box plots.		
S5			
Calculate median, mean, range, mode and modal class.	Quartiles and inter-quartile range and percentiles.		

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
S6			
Read and interpret a wide range of graphs and diagrams and draw conclusions.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
S7			
Compare distributions and make inferences.		This topic is not assessed. **OxfordAQA believes that it is important for students to realise that statistics is not just about drawing diagrams and making calculations; it is important to be able to make comparisons, inferences and conclusions with real-life data.**	This topic is not assessed. **OxfordAQA believes that it is important for students to realise that statistics is not just about drawing diagrams and making calculations; it is important to be able to make comparisons, inferences and conclusions with real-life data.**
S8			
Recognise correlation and draw and/or use lines of best fit by eye, understanding what these represent.		This topic is not assessed. **OxfordAQA believes that this straightforward topic can be applied to many real-life contexts, enabling students to see connections with bivariate data. Lines of best fit give opportunities to make predictions when appropriate.**	
S9			
Understand and use the vocabulary of probability and the probability scale.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
S10			
Understand and use estimates or measures of probability from theoretical models (including equally likely outcomes), or from relative frequency.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
S11			
Compare experimental data and theoretical probabilities.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
S12			
Understand that if an experiment is repeated, this may – and usually will – result in different outcomes.			This is not assessed. **OxfordAQA believes that this topic is useful in providing students with a fuller understanding of the nature of probability.**
S13			
Understand that increasing sample size generally leads to better estimates of probability and population characteristics.			This is not assessed. **OxfordAQA believes that this topic is useful in providing students with a fuller understanding of the nature of probability.**
S14			
Understand and use sample spaces for situations where outcomes are single events and for situations where outcomes are two successive events.		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
S15			
Identify different mutually exclusive and exhaustive outcomes and know that the sum of the probabilities of all these outcomes is 1 Know and use that for mutually exclusive events A and B $P(A \cup B) = P(A)+P(B)$		Content is common to all three awarding organisations.	Content is common to all three awarding organisations.
S16			
Understand and use Venn diagrams to work out probabilities.			This is not assessed. **OxfordAQA believes that this topic is useful in providing students with a greater range of available techniques when solving problems involving probability.**
S17			
Calculate the probability of independent combined, including using tree diagrams and other representations. Know and use that for independent events A and B $P(A \cap B) = P(A)\times P(B)$			

OxfordAQA specification (9260)		Pearson Edexcel specification A (4MA1)	Cambridge International specification (0580)
S18			
	Calculate conditional probabilities including using tree diagrams and other representations.		
Pearson Edexcel also have Specification B, with a single tier of entry for grades 4–9 There are two exams. Paper 1 has 100 marks, is 1 hour 30 minutes in length and is worth one third of the total assessment Paper 2 has 100 marks, is 2 hours 30 minutes in length and is worth two thirds of the total assessment. Both papers can cover content from any part of the specification. Students answer all questions. The content is very similar to the Higher tier of Specification A, but also includes the factor theorem and its use in solving cubic equations and the application of calculus to linear kinematics and other practical problems. **OxfordAQA believes that these topics are more suited to AS study.**			
Cambridge International also offer specification 0607, which has a different structure of assessment. Each tier has three papers, comprising: • A first paper, which is non-calculator, consisting of short response questions • A second paper of extended response questions • A third paper consisting of one investigation question and, at Extended tier only, one modelling questions. At Core tier, the weighting of the three papers is 25%, 60% and 15% At Extended tier, the weighting of the three papers is 20%, 60% and 20% **OxfordAQA believes that this is not the most appropriate form of assessment at GCSE.**			

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