How to be successful in GCSE Maths

7+

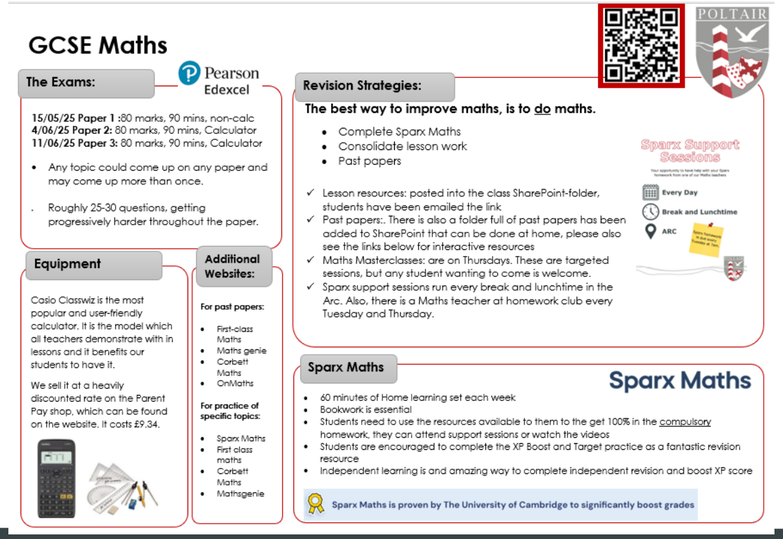
Agenda:

- Meet the team
- What do the exams look like?
- Maths at Poltair
- Support

The best way to improve maths, is to do maths.

GCSE Maths

- **Exam board**: Pearson Edexcel
- Link to the specification on Sheet in marketplace



GCSE Maths

The Exams:

Pearson Edexcel

15/05/25 Paper 1 :80 marks, 90 mins, non-calc
4/06/25 Paper 2: 80 marks, 90 mins, Calculator
11/06/25 Paper 3: 80 marks, 90 mins, Calculator

- Any topic could come up on any paper and may come up more than once.
- Roughly 25-30 questions, getting progressively harder throughout the paper.

Equipment

Casio Classwiz is the most popular and user-friendly calculator. It is the model which all teachers demonstrate with in lessons and it benefits our students to have it.

We sell it at a heavily discounted rate on the Parent Pay shop, which can be found on the website. It costs £9.34.

Additional Websites:

For past papers:

- First-class Maths
- Maths genie
- Corbett Maths
- OnMaths

For practice of specific topics:

- Sparx Maths
- First class maths
- Corbett Maths
- Mathsgenie

Revision Strategies:

The best way to improve maths, is to do maths.

- Complete Sparx Maths
- Consolidate lesson work
- Past papers

Sparx Support Sessions

Every Day
Break and Lunchtime
ARC

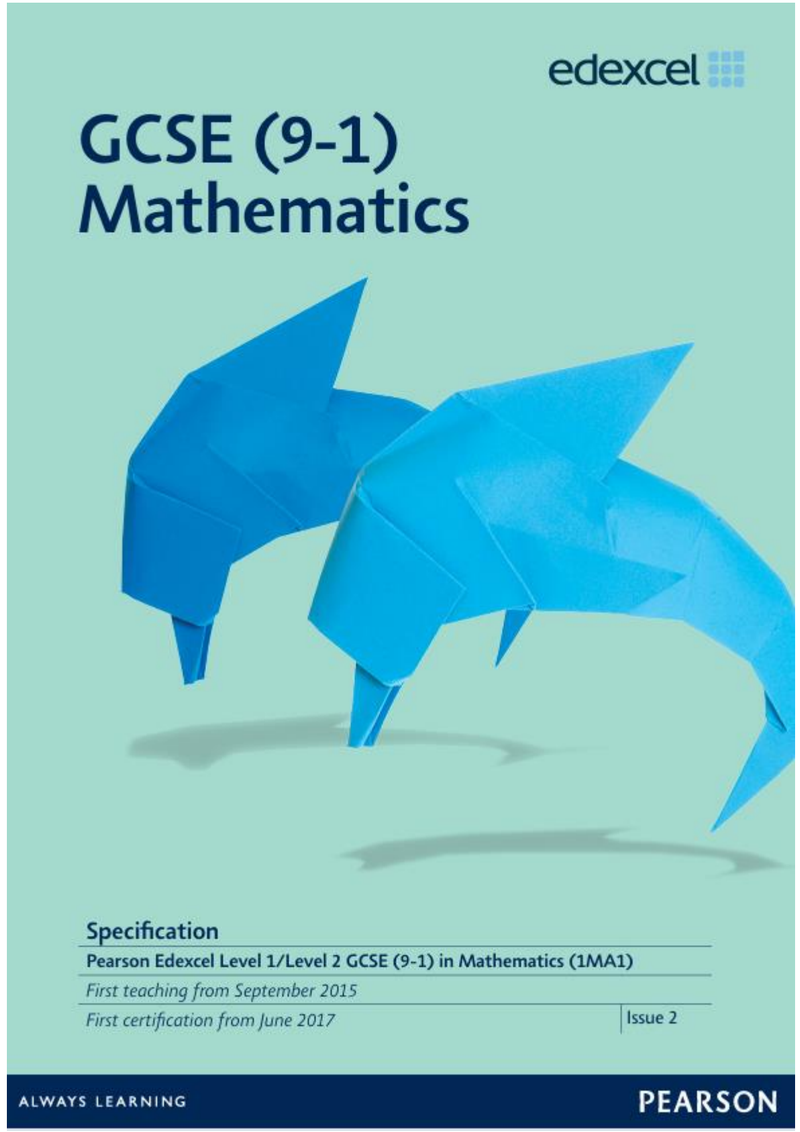
- ✓ Lesson resources: posted into the class SharePoint-folder, students have been emailed the link
- ✓ Past papers:. There is also a folder full of past papers has been added to SharePoint that can be done at home, please also see the links below for interactive resources
- ✓ Maths Masterclasses: are on Thursdays. These are targeted sessions, but any student wanting to come is welcome.
- ✓ Sparx support sessions run every break and lunchtime in the Arc. Also, there is a Maths teacher at homework club every Tuesday and Thursday.

Sparx Maths

Sparx Maths

- 60 minutes of Home learning set each week
- Bookwork is essential
- Students need to use the resources available to them to the get 100% in the compulsory homework, they can attend support sessions or watch the videos
- Students are encouraged to complete the XP Boost and Target practice as a fantastic revision resource
- Independent learning is and amazing way to complete independent revision and boost XP score

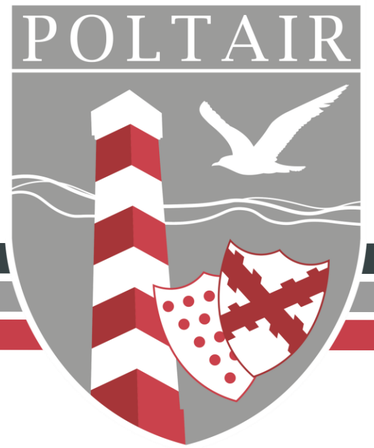
Sparx Maths is proven by The University of Cambridge to significantly boost grades



GCSE Maths

Paper 1	Paper 2	Paper 3
80 marks	80 marks	80 marks
90 minutes	90 minutes	90 minutes
Non-calculator	Calculator	Calculator

There are 240 marks in total
Any topic could come up in any paper.
All papers evenly weighted.



Two tiers:

Foundation Tier- Grades 1-5
Higher Tier- Grades 3-9

What is a :

- Progress check
- WTM
- PPE
- MTG

Progress Check 1 September

One full GCSE paper- sat in a lesson under test conditions

Purpose:

- Reminds students what papers look like
- Gives teachers a chance to see what their students can do
- Directs learning in preparation for PPE1

The best way to improve maths, is to do maths.

What is a :

- Progress check
- WTM
- PPE
- MTG

WTM October

WTM2 January

1. Teacher walk the students through key questions on a paper
2. Students take paper home to learn
3. Student retake the shadow paper
4. Teachers and student mark together

Purpose

- Support student understanding of exam technique
- Builds confidence with targeted questions
- Familiarises students with mark schemes

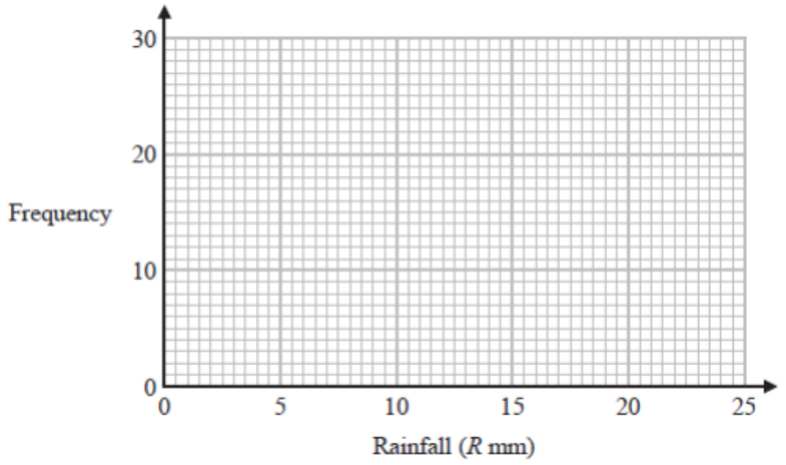
The best way to improve maths, is to do maths.

Original question

4 The table shows information about the daily rainfall in a town for 60 days.

Rainfall (R mm)	Frequency
$0 \leq R < 5$	8
$5 \leq R < 10$	24
$10 \leq R < 15$	13
$15 \leq R < 20$	11
$20 \leq R < 25$	4

Draw a frequency polygon for this information.



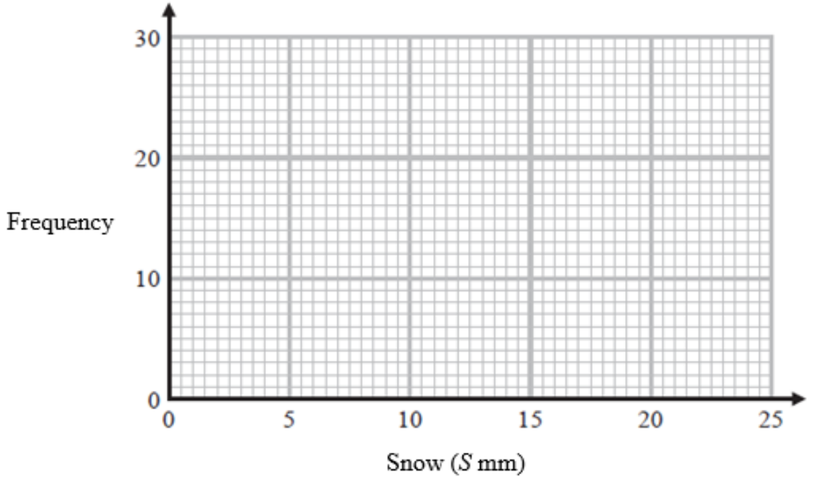
(Total for Question 4 is 2 marks)

Shadow question

4 The table shows information about the amount of snow, in mm, in a town for 70 days in winter.

Snow (S mm)	Frequency
$0 \leq S < 5$	2
$5 \leq S < 10$	22
$10 \leq S < 15$	17
$15 \leq S < 20$	14
$20 \leq S < 25$	9

Draw a frequency polygon for this information.



(Total for Question 4 is 2 marks)

What is a :

- Progress check
- WTM
- PPE
- MTG

PPE1 November

PPE2 February

Pre Public examination
3x full papers- a full exam series
Sat in the main hall, under test conditions

Purpose

- Give students the full exam experience
- Track progress
- Inform teaching
- Provide students with actionable next steps

Paper 1
80 marks
90 minutes
Non-calculator

Paper 2
80 marks
90 minutes
Calculator

Paper 3
80 marks
90 minutes
Calculator

POLTAIR

The best way to improve maths, is to do maths.

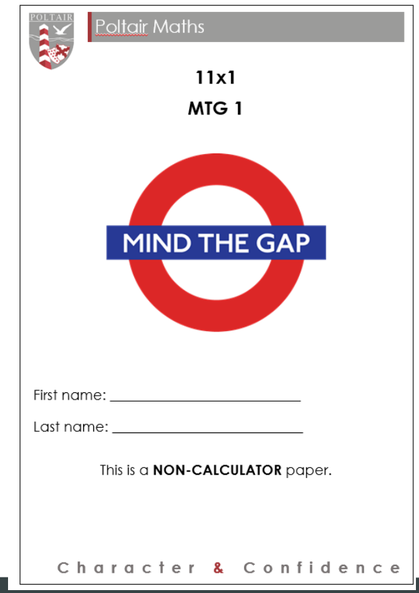
What is a :

- Progress check
- WTM
- PPE
- MTG

MTG exam practice

The best way to improve maths, is to do maths.

6 weeks of lessons
Students sit a half-paper in the first lesson of the week, gaps are identified and teacher plans lessons to fill those gaps.



Purpose

- Students become very familiar with exam papers
- Exam strategy
- Highly responsive teaching
- Builds confidence prior to PPE2

POLTAIR

What happens after an assessment:

1. Students are given “active” feedback, in the form of shadow solutions

Original question

4 The table shows information about the daily rainfall in a town for 60 days.

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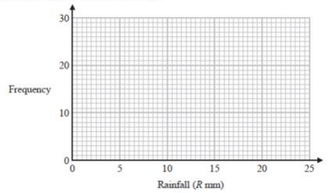

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Shadow question

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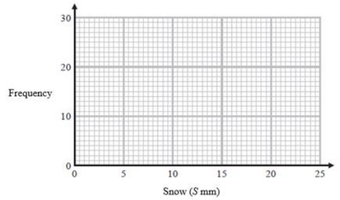

(Total for Question 4 is 2 marks)

2. Students receive a RAG sheet, stuck into Sparx homework book

Mathematics Assessment Feedback

sparx

Paper	Edexcel June 2023 Paper 3H
Class	Enter Class Name
Teacher	Enter Teacher Name

Questions	Topic	Score	Sparx Code
1a	Simplifying expressions using index laws	0.41 / 1	U662
1b	Simplifying expressions using index laws	0.78 / 1	U662
1c	Expanding single brackets	1.48 / 2	U179
2a	Finding percentages of amounts with a calculator	3.3 / 4	U349
2b	Finding percentages of amounts with a calculator	0.63 / 1	U349
3	Angles on parallel lines, Geometric proofs with angle facts	1.52 / 5	U826, U471
4	Solving inverse proportion word problems	0.15 / 2	U357
5a	Finding the HCF and LCM using prime factor decomposition	0.26 / 1	U520
5b	Finding the HCF and LCM using prime factor decomposition	0.48 / 2	U520
6	Calculating with rates, Reading, converting and calculating with time	1.15 / 3	U256, U902
7a	Interpreting graphs of quadratic functions	0.67 / 1	U667
7b	Solving quadratic equations graphically	0.19 / 1	U601
8	Calculating with density	1.3 / 2	U910
9	Finding percentages of amounts with a calculator	1.04 / 2	U349
10	Finding unknown sides in right-angled triangles	0.07 / 3	U283
11a	Drawing box plots	2.07 / 3	U879
11b	Comparing populations using box plots and cumulative frequency graphs	0.41 / 2	U507
12	Expanding triple brackets	0.81 / 3	U606
13	Writing algebraic proofs	0.04 / 3	U582
14	The cosine rule, Finding the area of sectors	0.19 / 4	U591, U373
15a	Factorising the difference of two squares	0.07 / 1	U963
15b	Factorising the difference of two squares, Writing algebraic proofs	0 / 2	U963, U582
16	Enlargement by a positive or negative scale factor	0 / 2	U134
17a	Estimating gradients of non-linear graphs using tangents	0.19 / 3	U800
17b	Calculating speed from distance-time graphs	0.04 / 1	U462
18	Finding the surface area of frustums	0.41 / 5	U334
19	Graphs of exponential functions	0.07 / 1	U229
20	Converting recurring decimals to fractions	0.48 / 3	U689
21	Factorising to solve quadratic equations, Adding & subtracting algebraic fractions	0.04 / 4	U960, U685
22	Identifying parallel vectors, Constructing and solving simultaneous equations	0 / 3	U660, U137
23	Equations of circles and tangents	0 / 4	U567
24	Calculating with ratios and algebra, Multiplying algebraic fractions	0 / 5	U676, U457
	Total	18.2 / 80	

POLTAIR

Mathematics Assessment Feedback

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	Total	18.2 / 80	

The best way to improve maths, is to <u>do</u> maths.

Students are encouraged to focus on the Ambers first, then the reds.

And of course, celebrate the greens!

Sparx codes for each of the topics included

Weekly home learning

Sparx Maths is proven by The University of Cambridge to significantly boost grades

Sparx Maths

Sparx

1. Sparx Maths

- Recall of skills learnt, provides continued practice of key skills in a way where students can seek support from the videos/clinics

2. Half-papers

- After PPE1 we will start to set half-papers to be complete on paper each week. These will include a QR code which links to video solutions and students will be asked to hand these in totally complete.

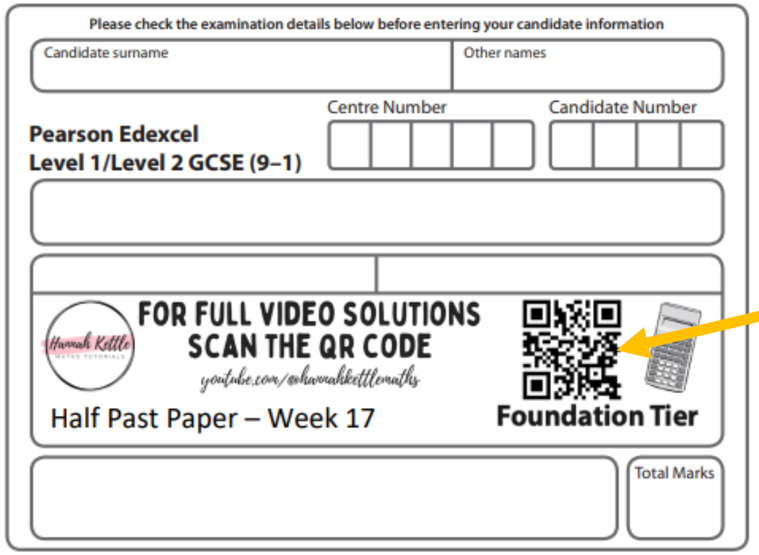
Approach:

- Try the paper without resources, and answer as many questions as possible
- Mark the work that has been done, using solutions (green pen)
- Fill in missing answers, using video

POLTAIR

The best way to improve maths, is to do maths.

Weekly home learning- half papers


Please check the examination details below before entering your candidate information

Candidate surname | Other names

Centre Number | Candidate Number

Pearson Edexcel
Level 1/Level 2 GCSE (9–1)

FOR FULL VIDEO SOLUTIONS
SCAN THE QR CODE
youtube.com/@hannahkettlemaths

Half Past Paper – Week 17

Foundation Tier

Total Marks

QR code which links to youtube video solutions

Q	Topic	Marks	Sparx Code
1	Converting units of length	1	M772
3	Converting between fractions, decimals and percentages	1	U888
5	Ordering negative numbers	1	U947
7	Finding fractions of shapes	2	U679
9a	Using the correct order of operations, Multiplying and dividing with place value	1	U976,U735
9b	Using a calculator	1	U926
9c	Dividing fractions	1	U544
11	Combining angle facts	3	U655
13	Finding the perimeter of compound shapes	2	U351
15a	Solving direct proportion word problems	4	U721
15b	Solving direct proportion word problems	1	U721
17	Constructing triangles	2	U187
19a	Finding original values in percentage calculations	2	U286
19b	Writing numbers as percentages of other numbers	2	U925
21a	Expected results from repeated experiments	1	U166
21b	Experimental probabilities	1	U580
23a	Simplifying expressions using index laws	1	U662
23b	Simplifying expressions using index laws	2	U662
23c	Solve single inequalities	2	U759
25	Finding error intervals	2	U657
27a	Tree diagrams for independent events	2	U558
27b	Tree diagrams for independent events	2	U558
29	Finding the volume of prisms, Calculating with density	3	U174,U910
	Total	40	

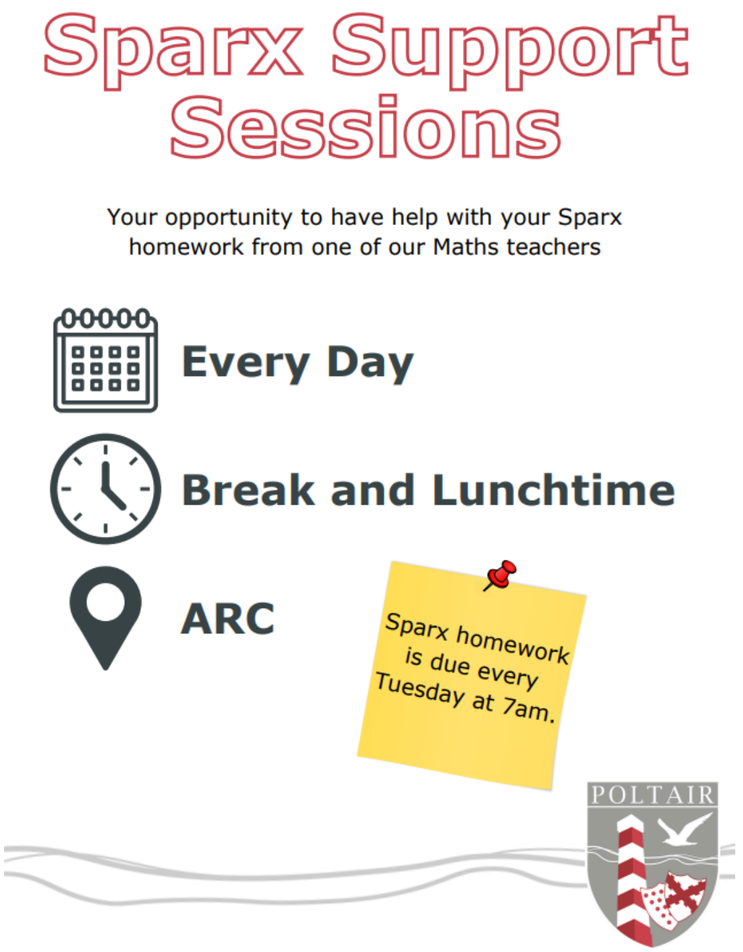
Sparx codes for each of the topics included

The best way to improve maths, is to <u>do</u> maths.

Support available: Clinics

- Break 1 everyday
- Break 2 everyday
- Homework club Tuesdays and Fridays

During the times mentioned above there is always a Maths teacher timetabled **in the Arc**. Students are encouraged to go along and seek support with Sparx/half-papers/revision.



Support available: Masterclasses

- Targeted after school sessions
- Students invited have been identified as needing an extra boost to support them in the run-up to PPE
- Thursday night is Maths night
- Will run every week, even if there is parents evening. The only exception is open evening.

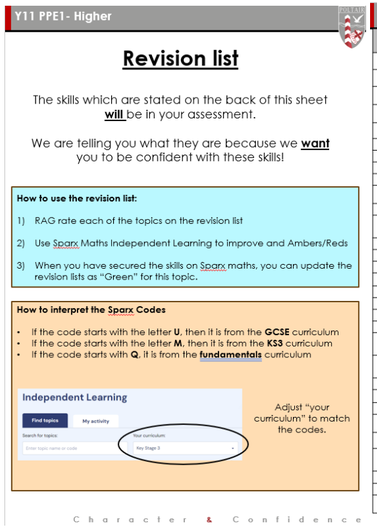
Support available: Register & Revise

- 30 minutes per week of extra maths, with specialists
- Topics are chosen from revision lists, and in conjunction with class teacher
- Groups have been carefully chosen to ensure targeted revision
- Promptness is much appreciated

How can students revise:

- Revision lists
- RAG sheets
- Weekly homework
- XP Boost/ Target

The best way to improve maths, is to do maths.



Y11 PPE1- Higher

Revision list

The skills which are stated on the back of this sheet **will** be in your assessment.

We are telling you what they are because we **want** you to be confident with these skills!

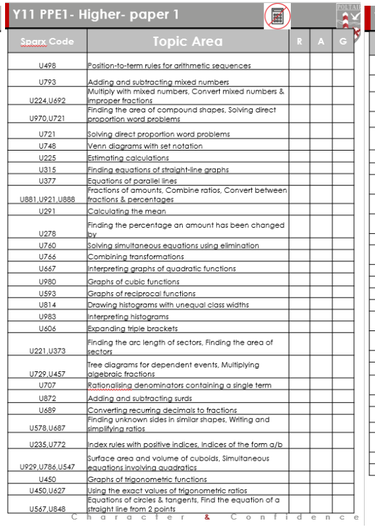
How to use the revision list:

1) RAG rate each of the topics on the revision list
2) Use Sparx Maths Independent Learning to improve and Ambers/Reds
3) When you have secured the skills on Sparx maths, you can update the revision lists as "Green" for this topic.

How to interpret the Sparx Codes

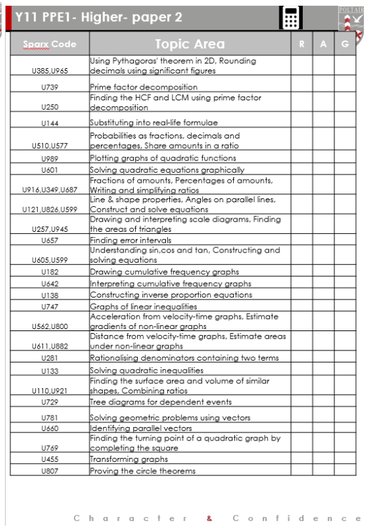
- If the code starts with the letter **U**, then it is from the **GCSE** curriculum
- If the code starts with the letter **M**, then it is from the **KS3** curriculum
- If the code starts with **Q**, it is from the **fundamentals** curriculum

Adjust "your curriculum" to match the codes.



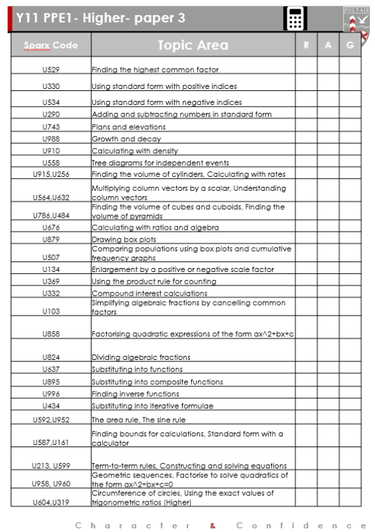
Y11 PPE1- Higher- paper 1

Sparx Code	Topic Area	R	A	G
U498	Position-to-term rules for arithmetic sequences			
U793	Adding and subtracting mixed numbers			
U224,U692	Multiply with mixed numbers, Convert mixed numbers & improper fractions			
U970,U721	Finding the area of compound shapes, Solving direct proportion word problems			
U721	Solving direct proportion word problems			
U748	Venn diagrams with set notation			
U225	Estimating calculations			
U316	Finding equations of straight-line graphs			
U377	Equations of parallel lines			
U881,U921,U888	Fractions of amounts, Combine ratios, Convert between fractions & percentages			
U291	Calculating the mean			
U278	Finding the percentage an amount has been changed by			
U760	Solving simultaneous equations using elimination			
U766	Combining transformations			
U667	Interpreting graphs of quadratic functions			
U980	Graphs of cubic functions			
U593	Graphs of reciprocal functions			
U814	Drawing histograms with unequal class widths			
U983	Interpreting histograms			
U606	Expanding triple brackets			
U221,U373	Finding the arc length of sectors, Finding the area of sectors			
U729,U457	Tree diagrams for dependent events, Multiplying algebraic fractions			
U707	Rationalising denominators containing a single term			
U872	Adding and subtracting surds			
U689	Converting recurring decimals to fractions			
U578,U687	Finding unknown sides in similar shapes, Writing and simplifying ratios			
U235,U772	Index rules with positive indices, Indices of the form a/b			
U929,U786,U547	Surface area and volume of cuboids, Simultaneous equations involving quadratics			
U450	Graphs of trigonometric functions			
U450,U627	Using the exact values of trigonometric ratios			
U567,U848	Equations of circles & tangents, Find the equation of a straight line from 2 points			



Y11 PPE1- Higher- paper 2

Sparx Code	Topic Area	R	A	G
U385,U965	Using Pythagoras' theorem in 2D, Rounding decimals using significant figures			
U739	Prime factor decomposition			
U250	Finding the HCF and LCM using prime factor decomposition			
U144	Substituting into real-life formulae			
U510,U577	Probabilities as fractions, decimals and percentages, Share amounts in a ratio			
U989	Plotting graphs of quadratic functions			
U601	Solving quadratic equations graphically			
U916,U349,U687	Fractions of amounts, Percentages of amounts, Writing and simplifying ratios			
U121,U826,U599	Line & shape properties, Angles on parallel lines, Construct and solve equations			
U257,U945	Drawing and interpreting scale diagrams, Finding the areas of triangles			
U657	Finding error intervals			
U605,U599	Understanding sin,cos and tan, Constructing and solving equations			
U182	Drawing cumulative frequency graphs			
U642	Interpreting cumulative frequency graphs			
U138	Constructing inverse proportion equations			
U747	Graphs of linear inequalities			
U562,U800	Acceleration from velocity-time graphs, Estimate gradients of non-linear graphs			
U611,U882	Distance from velocity-time graphs, Estimate areas under non-linear graphs			
U281	Rationalising denominators containing two terms			
U133	Solving quadratic inequalities			
U110,U921	Finding the surface area and volume of similar shapes, Combining ratios			
U729	Tree diagrams for dependent events			
U781	Solving geometric problems using vectors			
U660	Identifying parallel vectors			
U769	Finding the turning point of a quadratic graph by completing the square			
U455	Transforming graphs			
U807	Proving the circle theorems			

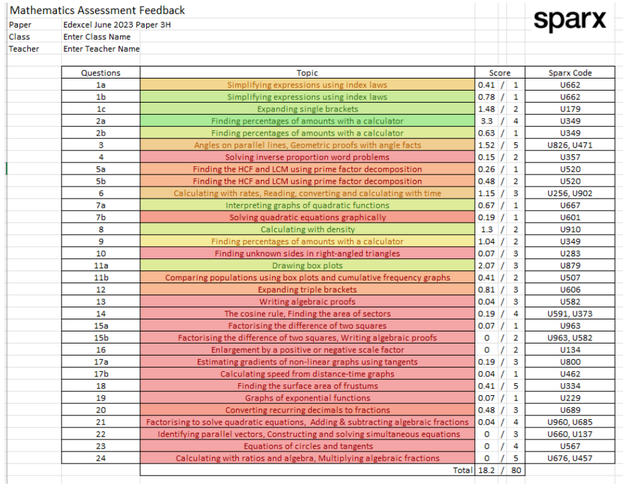


Y11 PPE1- Higher- paper 3

Sparx Code	Topic Area	R	A	G
U529	Finding the highest common factor			
U330	Using standard form with positive indices			
U334	Using standard form with negative indices			
U290	Adding and subtracting numbers in standard form			
U743	Plans and elevations			
U988	Growth and decay			
U910	Calculating with density			
U558	Tree diagrams for independent events			
U915,U256	Finding the volume of cylinders, Calculating with rates			
U564,U632	Multiplying column vectors by a scalar, Understanding column vectors			
U786,U484	Finding the volume of cubes and cuboids, Finding the volume of pyramids			
U676	Calculating with ratios and algebra			
U879	Drawing box plots			
U507	Comparing populations using box plots and cumulative frequency graphs			
U134	Enlargement by a positive or negative scale factor			
U369	Using the product rule for counting			
U332	Compound interest calculations			
U103	Simplifying algebraic fractions by cancelling common factors			
U858	Factorising quadratic expressions of the form ax^2+bx+c			
U824	Dividing algebraic fractions			
U637	Substituting into functions			
U895	Substituting into composite functions			
U996	Finding inverse functions			
U434	Substituting into iterative formulae			
U592,U952	The area rule, The sine rule			
U587,U161	Finding bounds for calculations, Standard form with a calculator			
U213, U599	Term-to-term rules, Constructing and solving equations			
U958, U960	Geometric sequences, Factorise to solve quadratics of the form ax^2+bx+c=0			
U604,U319	Circumference of circles, Using the exact values of trigonometric ratios (Higher)			

Character & Confidence

[Sparx independent learning]



Mathematics Assessment Feedback

sparx

Paper: Edexcel June 2023 Paper 3H
Class: Enter Class Name
Teacher: Enter Teacher Name

Questions	Topic	Score	Sparx Code
1a	Simplifying expressions using index laws	0.41 / 1	U662
1b	Simplifying expressions using index laws	0.78 / 1	U662
1c	Expanding single brackets	1.48 / 2	U179
2a	Finding percentages of amounts with a calculator	3.3 / 4	U349
2b	Finding percentages of amounts with a calculator	0.63 / 1	U349
3	Angles on parallel lines, Geometric proofs with angle facts	1.52 / 5	U826, U471
4	Solving inverse proportion word problems	0.15 / 2	U357
5a	Finding the HCF and LCM using prime factor decomposition	0.26 / 1	U520
5b	Finding the HCF and LCM using prime factor decomposition	0.48 / 2	U520
6	Calculating with rates, Reading, converting and calculating with time	1.15 / 3	U256, U902
7a	Interpreting graphs of quadratic functions	0.67 / 1	U667
7b	Solving quadratic equations graphically	0.19 / 1	U601
8	Calculating with density	1.3 / 2	U910
9	Finding percentages of amounts with a calculator	1.04 / 2	U349
10	Finding unknown sides in right-angled triangles	0.07 / 3	U283
11a	Drawing box plots	2.07 / 3	U879
11b	Comparing populations using box plots and cumulative frequency graphs	0.41 / 2	U507
12	Expanding triple brackets	0.81 / 3	U606
13	Writing algebraic proofs	0.04 / 3	U582
14	The cosine rule, Finding the area of sectors	0.19 / 4	U591, U373
15a	Factorising the difference of two squares	0.07 / 1	U963
15b	Factorising the difference of two squares, Writing algebraic proofs	0 / 2	U963, U582
16	Enlargement by a positive or negative scale factor	0 / 2	U134
17a	Estimating gradients of non-linear graphs using tangents	0.19 / 3	U800
17b	Calculating speed from distance-time graphs	0.04 / 1	U462
18	Finding the surface area of frustums	0.41 / 5	U334
19	Graphs of exponential functions	0.07 / 1	U229
20	Converting recurring decimals to fractions	0.48 / 3	U689
21	Factorising to solve quadratic equations, Adding & subtracting algebraic fractions	0.04 / 4	U960, U685
22	Identifying parallel vectors, Constructing and solving simultaneous equations	0 / 3	U660, U137
23	Equations of circles and tangents	0 / 4	U567
24	Calculating with ratios and algebra, Multiplying algebraic fractions	0 / 5	U676, U457
	Total	18.2 / 80	

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How can students revise: Past papers

- Weekly half-papers
- OnMaths.co.uk
- Mathsgenie

How can students revise: SORT

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Year 11
Learning Cycle 1

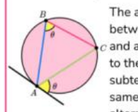
Student Name:_____

- Perfect excuse for family quizzing!

Maths – Circle theorem (Higher only)

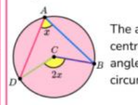
Circle Theorems

Alternate segment theorem



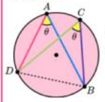
The angle that lies between a tangent and a chord is equal to the angle subtended by the same chord in the alternate segment.

Angle at the centre theorem



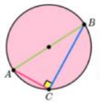
The angle at the centre is twice the angle at the circumference.

Angles in the same segment theorem



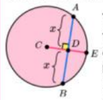
Angles in the same segment are equal.

Angles in a semicircle



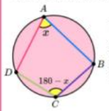
The angle in a semicircle is 90 degrees.

Chord of a circle



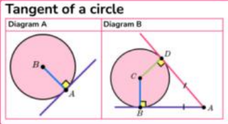
The perpendicular from the centre of a circle to a chord bisects the chord (splits the chord into two equal parts).

Cyclic quadrilateral



The opposite angles in a cyclic quadrilateral total 180°.

Tangent of a circle



A. The angle between a tangent and radius is 90 degrees.
B. Tangents which meet at the same point are equal in length.

Maths – Angle facts

Angle Rule	Description	Diagram
Angles on a straight line	The sum of angles on a straight line is 180°. $x + y + z = 180$	
Angles at a point	The sum of angles at a point is 360°. $w + x + y + z = 360$	
Complementary angles	The sum of complementary angles is 90°. These angles do not need to be together and form a right angle. If any two angles sum to 90° they are complementary.	
Supplementary angles	The sum of supplementary angles is 180°. These angles do not need to be together on a straight line. If any two angles sum to 180° they are supplementary.	
Vertically opposite angles	Vertically opposite angles are equal in size.	

Type of Angle	Description	Diagram
Acute angle	$0 \leq x^\circ < 90$	
Right angle	90°	
Obtuse angle	$90 < x^\circ \leq 180$	
Reflex angle	$180 < x^\circ \leq 360$	

Corresponding angles	Corresponding angles are equal in size.	
Alternate angles	Alternate angles are equal in size.	
Co-interior angles	The sum of co-interior angles is 180°. $x + y = 180$	

The **sum of angles in a quadrilateral is 360°.**

Type of quadrilateral	Angle property
Square / Rectangle	All four angles are equal to 90°
Parallelogram / Rhombus	Two pairs of opposite angles are equal
Kite / Arrowhead	One pair of equal angles
Trapezium	Two pairs of co-interior angles (see co-interior angles in parallel lines below)

Type of Triangle	Angle property	Diagram
Isosceles	The two base angles are equal	
Right angle	One angle is equal to 90°	
Equilateral	All three angles are equal to 60°	
Scalene	Three different angles (with no angle equal to 90°)	

Interior angles of polygons	The sum of interior angles of any polygon is equal to $180(n-2)$ for an n-sided shape.	
Exterior angles of polygons	The sum of exterior angles of any polygon is 360°.	
Angles in a triangle	The sum of angles in a triangle is 180°. $x + y + z = 180$	
Angles in a quadrilateral	The sum of angles in a quadrilateral is 360°. $w + x + y + z = 360$	

Maths - Key formulae

1. Pythagoras

Pythagoras' Theorem
For a right-angled triangle, $a^2 + b^2 = c^2$

Trigonometric ratios (*new to F*)
$\sin x^\circ = \frac{\text{opp}}{\text{hyp}}$, $\cos x^\circ = \frac{\text{adj}}{\text{hyp}}$, $\tan x^\circ = \frac{\text{opp}}{\text{adj}}$

2. Trigonometric formulae

Sine Rule $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

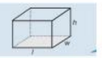
Cosine Rule $a^2 = b^2 + c^2 - 2bc \cos A$

Area of triangle $= \frac{1}{2}ab \sin C$

Foundation tier formulae | Higher tier formulae

3. Volumes

Cuboid $= l \times w \times h$



Prism = area of cross section × length

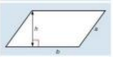
Cylinder $= \pi r^2 h$

Volume of pyramid $= \frac{1}{3}$ × area of base × h

4. Areas

Rectangle $= l \times w$

Parallelogram $= b \times h$



Triangle $= \frac{1}{2}b \times h$

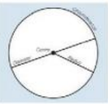
Trapezium $= \frac{1}{2}(a + b)h$

5. Circles

Circumference = π × diameter, $C = \pi d$

Circumference = $2 \times \pi \times$ radius, $C = 2\pi r$

Area of a circle = π x radius squared $A = \pi r^2$



6. Compound measures

Speed
speed $= \frac{\text{distance}}{\text{time}}$

Density
density $= \frac{\text{mass}}{\text{volume}}$

Pressure
pressure $= \frac{\text{force}}{\text{area}}$

7. Quadratic equations

The Quadratic Equation
The solutions of $ax^2 + bx + c = 0$, where $a \neq 0$, are given by $x = \frac{-b \pm \sqrt{(b^2 - 4ac)}}{2a}$

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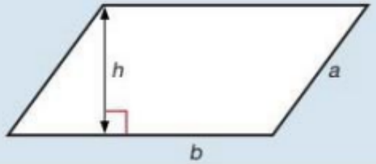
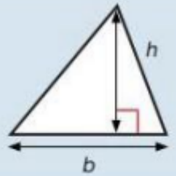
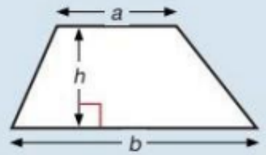
How can students revise: SORT

4. Areas

Rectangle = $l \times w$	
Parallelogram = $b \times h$	
Triangle = $\frac{1}{2} b \times h$	
Trapezium = $\frac{1}{2}(a + b)h$	

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How can students revise: Topic Specific

- Sparx independent learning
- Mathsgenie
- Corbett Maths

How can you support

- Ensure Sparx is completed on time each week, with full book work
- Encourage students to seek support if they are unsure at the clinics
- Send students to school on time, so that they can access register and revise
- Send students to school with full equipment- including the recommended calculator, so there are no barriers to accessing the lesson/revision

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The best way to improve maths, is to <u>do</u> maths.

How can you support- Calculator

- ParentPay
- £9.34

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How can you support- Revision

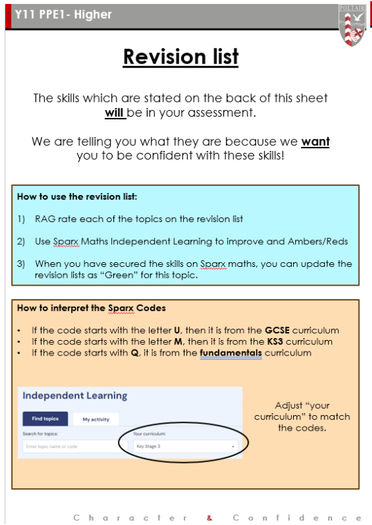
- Check that students are using their revision lists
- Encourage students to use their RAG sheets following assessments
- Encourage proper completion of half-papers
- Start family quiz night!

The best way to improve maths, is to do maths.

Thank you

- Please take a PPE1 revision list with you as you go

- Mrs Stephens is in the marketplace with past papers if you would like to look through these further and can answer any questions



Y11 PPE1- Higher

Revision list

The skills which are stated on the back of this sheet **will** be in your assessment.

We are telling you what they are because we **want** you to be confident with these skills!

How to use the revision list:

1) RAG rate each of the topics on the revision list
2) Use Sparx Maths Independent Learning to improve and Ambers/Reds
3) When you have secured the skills on Sparx maths, you can update the revision lists as "Green" for this topic.

How to interpret the Sparx Codes

- If the code starts with the letter **U**, then it is from the **GCSE** curriculum
- If the code starts with the letter **M**, then it is from the **KS3** curriculum
- If the code starts with **Q**, it is from the **fundamentals** curriculum

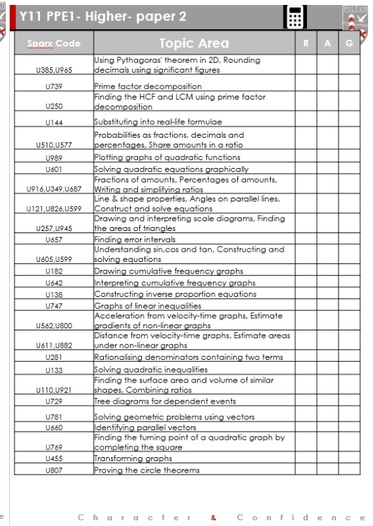
Adjust "your curriculum" to match the codes.

Character & Confidence

Y11 PPE1- Higher- paper 1

Sparx Code	Topic Area	R	A	G
U498	Position-to-term rules for arithmetic sequences			
U793	Adding and subtracting mixed numbers			
U224,U692	Multiply with mixed numbers, Convert mixed numbers & improper fractions			
U970,U721	Finding the area of compound shapes, Solving direct proportion word problems			
U721	Solving direct proportion word problems			
U748	Venn diagrams with set notation			
U225	Estimating calculations			
U315	Finding equations of straight-line graphs			
U377	Equations of parallel lines			
U881,U921,U888	Fractions of amounts, Combine ratios, Convert between fractions & percentages			
U291	Calculating the mean			
U278	Finding the percentage an amount has been changed by			
U760	Solving simultaneous equations using elimination			
U766	Combining transformations			
U667	Interpreting graphs of quadratic functions			
U980	Graphs of cubic functions			
U593	Graphs of reciprocal functions			
U814	Drawing histograms with unequal class widths			
U983	Interpreting histograms			
U606	Expanding triple brackets			
U221,U373	Finding the arc length of sectors, Finding the area of sectors			
U729,U457	Tree diagrams for dependent events, Multiplying algebraic fractions			
U707	Rationalising denominators containing a single term			
U872	Adding and subtracting surds			
U689	Converting recurring decimals to fractions			
U578,U687	Finding unknown sides in similar shapes, Writing and simplifying ratios			
U235,U772	Index rules with positive indices, Indices of the form a/b			
U929,U786,U547	Surface area and volume of cuboids, Simultaneous equations involving quadratics			
U450	Graphs of trigonometric functions			
U450,U627	Using the exact values of trigonometric ratios			
U567,U848	Equations of circles & tangents, Find the equation of a straight line from 2 points			

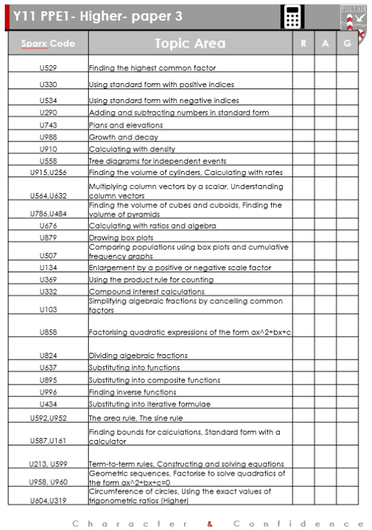
Character & Confidence



Y11 PPE1- Higher- paper 2

Sparx Code	Topic Area	R	A	G
U385,U965	Using Pythagoras' theorem in 2D, Rounding decimals using significant figures			
U739	Prime factor decomposition			
U250	Finding the HCF and LCM using prime factor decomposition			
U144	Substituting into real-life formulae			
U510,U577	Probabilities as fractions, decimals and percentages, Share amounts in a ratio			
U989	Plotting graphs of quadratic functions			
U601	Solving quadratic equations graphically			
U916,U349,U687	Fractions of amounts, Percentages of amounts, Writing and simplifying ratios			
U121,U826,U599	Line & shape properties, Angles on parallel lines, Construct and solve equations			
U257,U945	Drawing and interpreting scale diagrams, Finding the areas of triangles			
U657	Finding error intervals			
U605,U599	Understanding sin,cos and tan, Constructing and solving equations			
U182	Drawing cumulative frequency graphs			
U642	Interpreting cumulative frequency graphs			
U138	Constructing inverse proportion equations			
U747	Graphs of linear inequalities			
U562,U800	Acceleration from velocity-time graphs, Estimate gradients of non-linear graphs			
U611,U882	Distance from velocity-time graphs, Estimate areas under non-linear graphs			
U281	Rationalising denominators containing two terms			
U133	Solving quadratic inequalities			
U110,U921	Finding the surface area and volume of similar shapes, Combining ratios			
U729	Tree diagrams for dependent events			
U781	Solving geometric problems using vectors			
U660	Identifying parallel vectors			
U769	Finding the turning point of a quadratic graph by completing the square			
U455	Transforming graphs			
U807	Proving the circle theorems			

Character & Confidence



Y11 PPE1- Higher- paper 3

Sparx Code	Topic Area	R	A	G
U529	Finding the highest common factor			
U330	Using standard form with positive indices			
U534	Using standard form with negative indices			
U290	Adding and subtracting numbers in standard form			
U743	Plans and elevations			
U988	Growth and decay			
U910	Calculating with density			
U558	Tree diagrams for independent events			
U915,U256	Finding the volume of cylinders, Calculating with rates			
U564,U632	Multiplying column vectors by a scalar, Understanding column vectors			
U786,U484	Finding the volume of cubes and cuboids, Finding the volume of pyramids			
U676	Calculating with ratios and algebra			
U879	Drawing box plots			
U507	Comparing populations using box plots and cumulative frequency graphs			
U134	Enlargement by a positive or negative scale factor			
U369	Using the product rule for counting			
U332	Compound interest calculations			
U103	Simplifying algebraic fractions by cancelling common factors			
U858	Factorising quadratic expressions of the form ax^2+bx+c			
U824	Dividing algebraic fractions			
U637	Substituting into functions			
U895	Substituting into composite functions			
U996	Finding inverse functions			
U434	Substituting into iterative formulae			
U592,U952	The area rule, The sine rule			
U587,U161	Finding bounds for calculations, Standard form with a calculator			
U213, U599	Term-to-term rules, Constructing and solving equations			
U958, U960	Geometric sequences, Factorise to solve quadratics of the form ax^2+bx+c=0			
U604,U319	Circumference of circles, Using the exact values of trigonometric ratios (Higher)			

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