Passport to a Strong Pass (Higher)

edexcel

Sparx Maths

MATHEMATICS

Name:_____

What you need to succeed

- ☐ Belief than anyone can do maths
- ☐ Revision timetable created
- ☐ Casio/scientific Calculator
- ☐ Geometry set
- ☐ Edexcel revision book (Foundation)
- ☐ I know my SPARX Login

- ☐ How to self-quiz
- ☐ I know my targets
- ☐ Exam techniques
- ☐ Get your mind right
- ☐ Know your calculator
- ☐ I know where to get help

Revision Guidance Videos

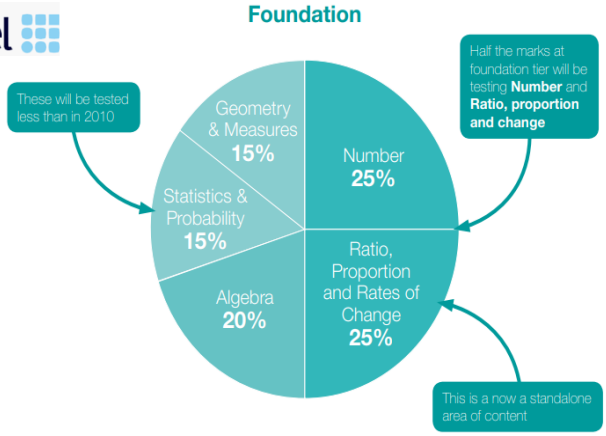
Maths exam information

Exam dates: edexcel

Paper 1 (non-calculator) - Thurs 15th May 2025 (AM)

Paper 2 (calculator) - Weds 4th June 2025 (AM)

Paper 3 (calculator) - Weds 11th June 2025 (AM)



Mock Exam dates:

Paper 1

Paper 2

Paper 3

Website	What's it useful for?	✓
www.montgomerymaths.co.uk	Revision resources, videos and links	
www.mathsgenie.co.uk/GCSE	Exam questions sorted by grade and topics with answers. Some video support	
www.corbettmaths.com	• 5 a day sheets —5 questions for every day of the year with answers. • Worksheets for every topic with video support and answers	
www.onmaths.com	Find the online mini-mocks that mark them as you go. Find the "Demon questions" for more challenge.	
www.ssddproblems.com—excellent for method selection	Sets of 4 questions that look the same on the surface but require different ap-proaches (answers included)	
www.mathsbot.com	Visit the GCSE resources to create revision grids and practice papers with answers.	

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Higher Skills List

Number

Topic	Topic code	R	A	G
Calculating with roots and fractional indices	U851, U985, U772, U299			
Converting recurring decimals to fractions	U689			
Surds	U338, U663, U872, U499			
Rationalising the denominator	U707, U281			
Error intervals	U657, U301, U587			

Algebra

Topic	Topic code	R	A	G
Expanding triple brackets	U606			
Operations with algebraic fractions	U685, U457, U824			
Factorising quadratic expressions: ax^2+bx+c	U858			
Simplifying algebraic fractions	U294			
Factorising to solve quadratics equations	U228, U960			
Using the quadratic formula	U665			
Completing the square to solve quadratics	U397, U589			
Quadratic equations in context	U150			
Quadratic simultaneous equations	U547			
Index laws	U235, U694, U662			
Equation of a straight line: Perpendicular lines	U898			
Quadratic graphs: Turning points	U769			
Quadratic simultaneous equations on graphs	U875			
Exponential graphs	U229			
Exponential growth and decay problems	U988			
Trigonometric graphs	U450			
Graph transformations	U598, U487, U455			
Velocity-time graphs	U937, U562, U611			
Rate of change graphs	U638, U652, U862			
Estimating gradient from a curve	U800			
Estimating area under a curve	U882			
Equation of a circles and tangents	U567			
Linear inequalities as graph regions	U747			
Quadratic inequalities	U133			
Functions	U637, U895, U448, U996			
Recurrence relations	U171			
Quadratic sequences	U206			
Iteration and numerical methods	U434, U168			
Algebraic proof	U582			

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Higher Skills List

Probability

Topic	Topic code	R	A	G
Product rule for counting	U369			
Conditional probability	U246, U821, U806			
Probability from Venn diagrams	U476, U748, U699			

Statistics

Topic	Topic code	R	A	G
Averages	U877, U717			
Cumulative frequency diagrams	U182, U642			
Box plots	U879, U837, U507			
Frequency polygons	U840			
Histograms	U814, U983, U267			
Capture-recapture	U328			

Ratio and proportion

Topic	Topic code	R	A	G
Algebraic direct and inverse proportion	U407, U138			
Compound units: Density problem solving	U910			

Geometry

Topic	Topic code	R	A	G
Congruence proofs	U866, U887			
Enlargements	U134			
Describe combined transformations	U766			
Circle theorems: Angles inside a circle	U459, U251			
Circle theorems: Tangents and chords	U489, U130			
Circle theorems problems	U808			
Prove circle theorems	U807			
Volume of frustums	U350			
Volume: Problem solving	U543, U426			
Similar Shapes: Area and volume	U630, U110			
Pythagoras' Theorem in 2D and 3D	U385, U541			
Right-angled trigonometry: Problem solving	U319, U283, U545, U967			
3D trigonometry	U170			
The area rule	U592			
Sine rule	U952			
Cosine rule	U591			
Trigonometry and bearings	U164			
Vectors problems	U781, U560			

Effort score tracker

Week Beginning	Effort score 1-5		SPARX tasks completed?	Practice exam done?	Independent practice?
	Class	Home			
13/1/2025					
20/1/2025					
27/1/2025					
3/2/2025					
10/2/2025					
HALF TERM 17/2/2025					
24/2/2025					
3/3/2025					
10/3/2025					
17/3/2025					
24/3/2025					
31/3/2025					
EASTER HOLIDAYS					
EASTER HOLIDAYS					
Tuesday 22/4/2025					
28/4/2025					
5/5/2025					
Paper 1 week 12/5/2025					
19/5/2025					
HALF TERM 26/5/2025					
Paper 2 week 2/6/2025					
9/6/2025					

Intervention so far:

- Exam analysis: students should have gone through the past exam, highlighting key mistakes.
- Complete end of term exam question-by-question analysis.
- Class teacher used this to inform planning and intervention sessions.
- Students should have filled in the RAG analysis for each exam.
- RAG has links to the SPARXs website so students can look up any Red or Amber topics.
- Set small manageable tasks in class
- Praise when something is achieved give out postcards .
- Extra work checks are used throughout lessons to check understanding
- Targeted questions throughout lessons to check understanding.

TARGETS:

- To push yourself in class to attempt the more difficult questions
- Show full working out for each stage in the question.
- Complete all learning task to a good standard
- Catch up on ALL SPARX homework
- Volunteer to answer questions in class discussions
- Use time at home to review red topics from end of term exam.

Higher Tier Formulae Sheet

Perimeter, area and volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

Area of a trapezium $= \frac{1}{2}(a+b)h$

Volume of a prism = area of cross section × length

Where r is the radius and d is the diameter:

Circumference of a circle $= 2\pi r = \pi d$

Area of a circle $= \pi r^2$

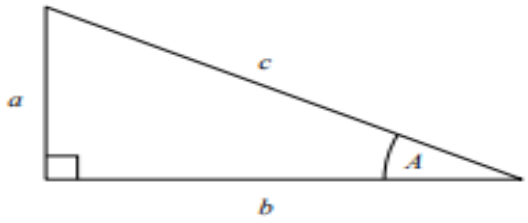
Quadratic formula

The solution of $ax^2 + bx + c = 0$

where $a \neq 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Pythagoras' Theorem and Trigonometry

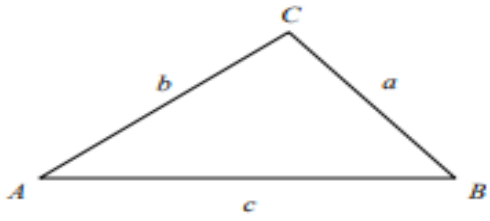


In any right-angled triangle where a, b and c are the length of the sides and c is the hypotenuse:

$a^2 + b^2 = c^2$

In any right-angled triangle ABC where a, b and c are the length of the sides and c is the hypotenuse:

$\sin A = \frac{a}{c}$ $\cos A = \frac{b}{c}$ $\tan A = \frac{a}{b}$



In any triangle ABC where a, b and c are the length of the sides:

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 $= \frac{1}{2}ab\sin C$

Compound Interest

Where P is the principal amount, r is the interest rate over a given period and n is number of times that the interest is compounded:

Total accrued $= P\left(1 + \frac{r}{100}\right)^n$

Probability

Where P (A) is the probability of outcome A and P (B) is the probability of outcome B:

P (A or B) = P (A) + P (B) − P (A and B)

P (A and B) = P (A given B) P(B)

Revision Timetable

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
						Day Off
Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	
Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	
Break – 1 hour	Break – 1 hour	Break – 1 hour	Break – 1 hour	Break – 1 hour	Break – 1 hour	
Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	
Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	Break – 5 mins	
Break – 1 hour	Break – 1 hour	Break – 1 hour	Break – 1 hour	Break – 1 hour	Break – 1 hour	
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