Supporting your child in Mathematics at Year 11

Jesmond Park Academy

Mathematics in KS4

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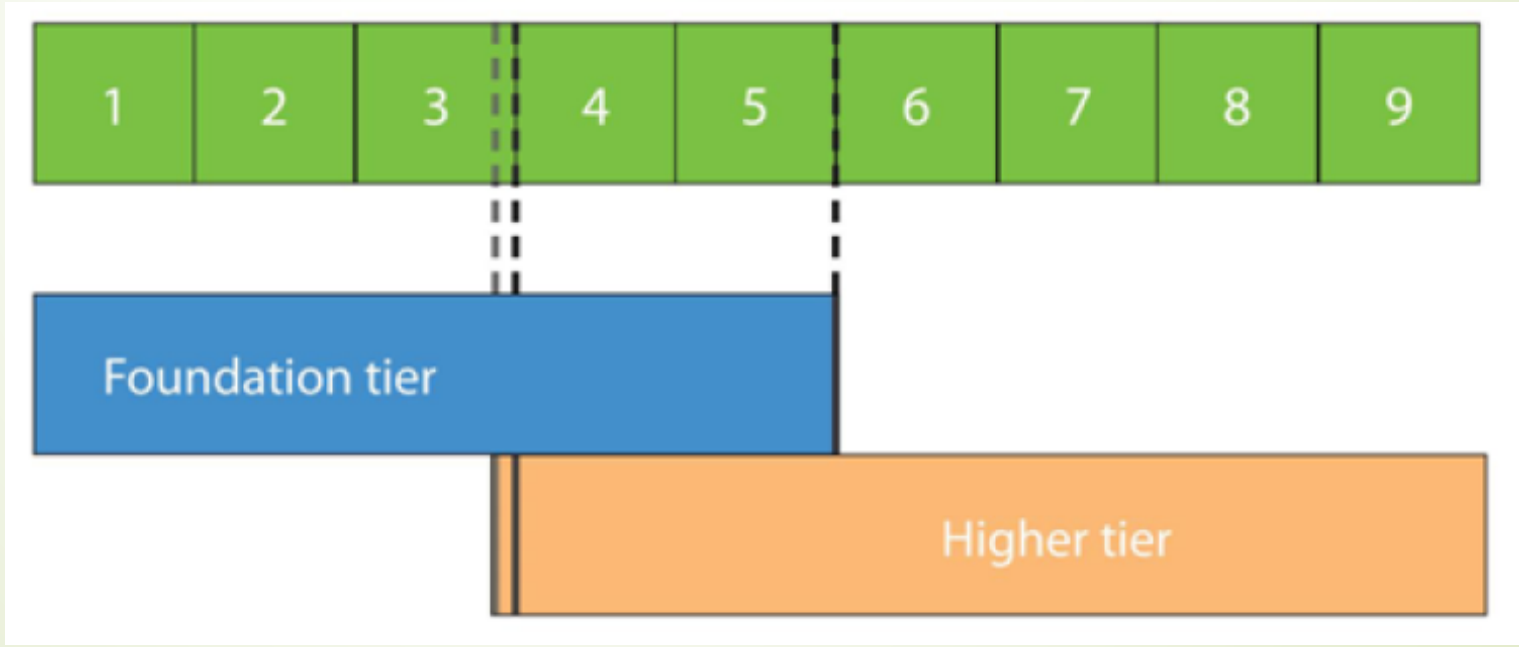
GCSE Tiers of Entry

- We aim to enter pupils for the tier of entry that gives them the best chance of their highest possible grade
- Entries are not made until after January Mocks in Year 11, assessments are carried out in year 10 and Year 11 to ensure pupils are covering the most appropriate work to support their attainment in the final GCSE exams – set changes are made throughout to ensure the most appropriate support is available.



KS4 Curriculum Content (year 10 and year 11)

Theme	Stage 4	Stage 5	Stage 6	Stage 7
Rounding	Estimation	Error Bounds	Maximum and minimum calculations	
Negatives	Adding and subtracting with negative numbers	Inequalities	Graphical inequalities Z	Solve quadratic inequalities (set notation?)
Place value	Standard form	Multiplying and dividing with standard form	Standard form in context	
Multiples/factors/Prim	Product of Prime Factors	Simplifying, multiplying and dividing surds Z	Adding and subtracting surds	Rationalising
Indices	Laws of indices	Numerical Negative (and fractional higher) indices	Simplifying algebraic negative and fractional indices	
Multiplying	Multiplying Fractions	Multiplying and dividing with upper and lower bounds Z	multiplying and dividing more complex algebraic fractions Z	
Dividing	Reciprocals and dividing fractions	Multiplying and dividing algebraic fractions Z	Solving linear equations involving fractions	
Adding and Subtracti	Adding and subtracting with mixed numbers	Adding and subtracting with standard form	Adding and subtracting algebraic fractions Z	
Fractions	Fractions of amounts	Recurring decimals Z	Simplifying algebraic fractions with addition and subtraction	
Units	Area and volume conversions and scale factors	Compound Measures Z	Time graphs	Area under a curve
Simplifying	Combining single brackets	Simplifying algebraic fractions with single bracket factorisation Z	Simplifying algebraic fractions involving quadratics Z	Inverse and composite functions
Expanding	Expanding double brackets	Triple brackets Z	Algebraic proof (previously in stage 5) Z	Quadratic simultaneous equations
Solving Equations	Solving equations with unknowns on both sides	Solving simultaneous equations algebraically	Solving quadratics using the formula Z	Numerical methods
Factorising	Factorising single bracket with powers	Factorising and solve quadratics with a=1	Factorising and solving quadratics with a>1 Z	Completing the square
Substitution/Formula	Writing expressions/formulae	Changing the subject of a formula	Changing the subject involving factorisation (this is on foundation too)	Equation of circles and tangents
Coordinates	Gradients and y intercepts	Drawing curved graphs	Trig graphs Z	Transforming graphs
Straight line graphs	Drawing from y = mx + c	Rearranging y = mx + c and parallel (and perpendicular H) lines Z	Graphical simultaneous equations	Estimating gradients
Sequence	Geometric sequences	Fibonacci sequence and triangle numbers	Subscript notation for sequences Z	Graph sketching
nth term	nth term of a linear sequence	Generating quadratic sequences Z	Quadratic nth term (previously in stage 5) Z	
Ratio	1: n and unitary ratios	Direct proportion Z	Inverse proportion Z	
Dividing ratios	Recipes	Ratio more than problems	Combining ratios	harder ratio questions
Percentage change	Multipliers and % change	Reverse percentages and interest	Exponential graphs Z	
Perimeter	Pythagoras	Finding sides using trigonometry	Exact trig values	Cosine rule
Area	Area of a circle	Sectors Z	Answers in terms of pi	Sine rule for area
Vol and SA	Vol and surface area of prisms	Volume and surface area of cylinders	Volume and surface area of solids	
Angles	Angles in polygons	Finding angles using trigonometry Z	Circle theorems Z	More circle theorems
Construction	Bisectors	Loci Z	Bearings	
Transformations	Reflections	Rotation	Vector calculations	Vector geometry
Sim and congruent	Enlarging with fractional (and negative H) scale fac	Similar and congruent triangles Z	Geometric proof	Consecutive transformations
2D and 3D	Plans and elevations	3D Pythagoras Z	3D trigonometry (previously included in stage 5) Z	Sine rule
Probability	Sum to 1/mutually exclusive events	Relative frequency	Dependent events	
Probability diagrams	Venn diagrams	Tree diagrams	Conditional and given events Z	
Mean and mode	Mean missing values and combining	Mean and mode from a grouped frequency table	Comparing sets of data	
Median and range	Collecting data and sampling	Box plots and IQR (higher) Z	Cumulative frequency Z	
Charts	Scatter graphs	Times series (not included in scheme previously) Z	Histograms (previously in stage 5) Z	

Assessments and mocks

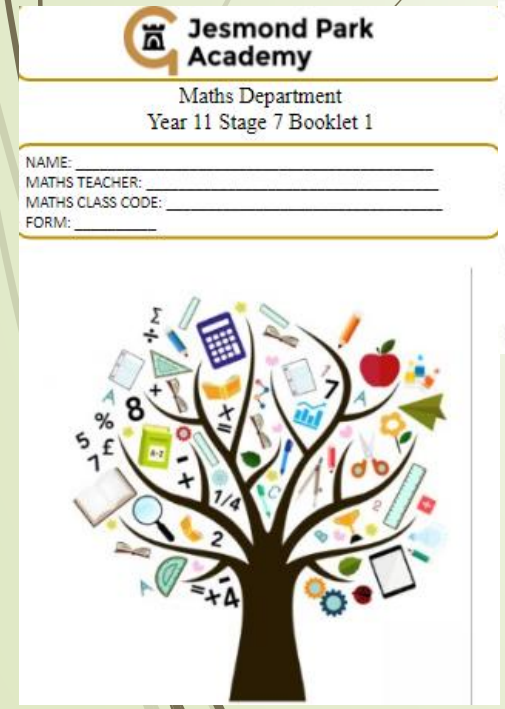
- In year 11 there are 4 full GCSE assessments, one in Autumn, two during the January Mocks, and one in Spring
- We aim to enter as many pupils as possible for the Higher tier paper, but many “borderline” pupils stand a better chance of achieving a grade 5 on the Foundation paper.

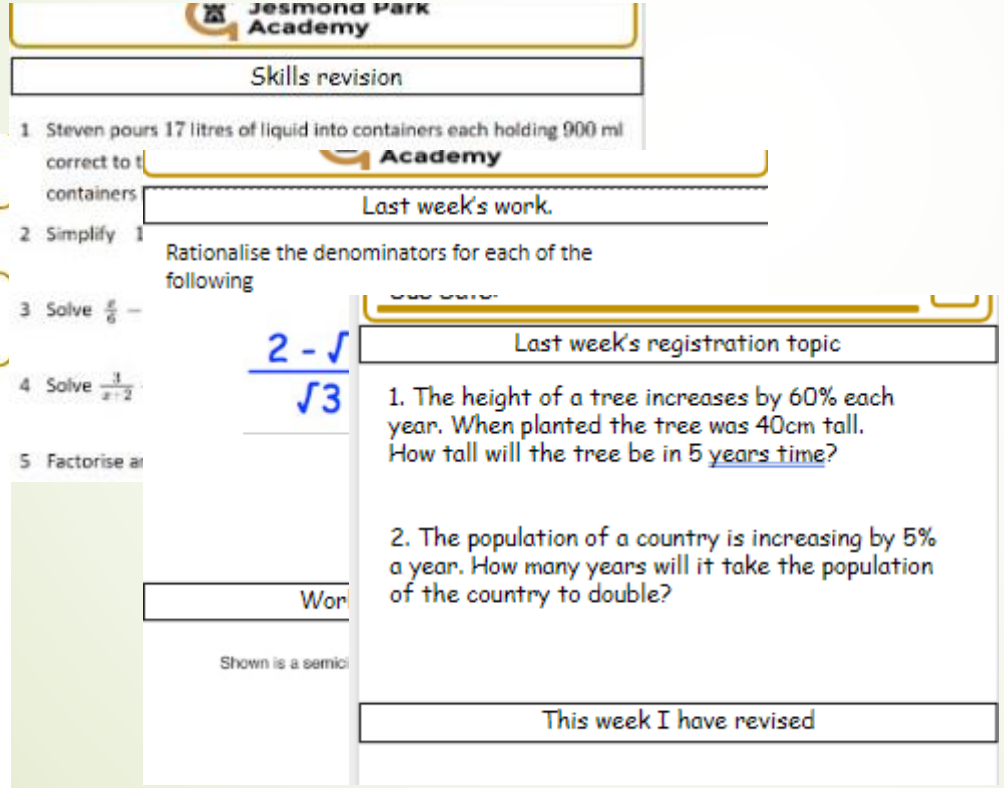
AQA Further Maths

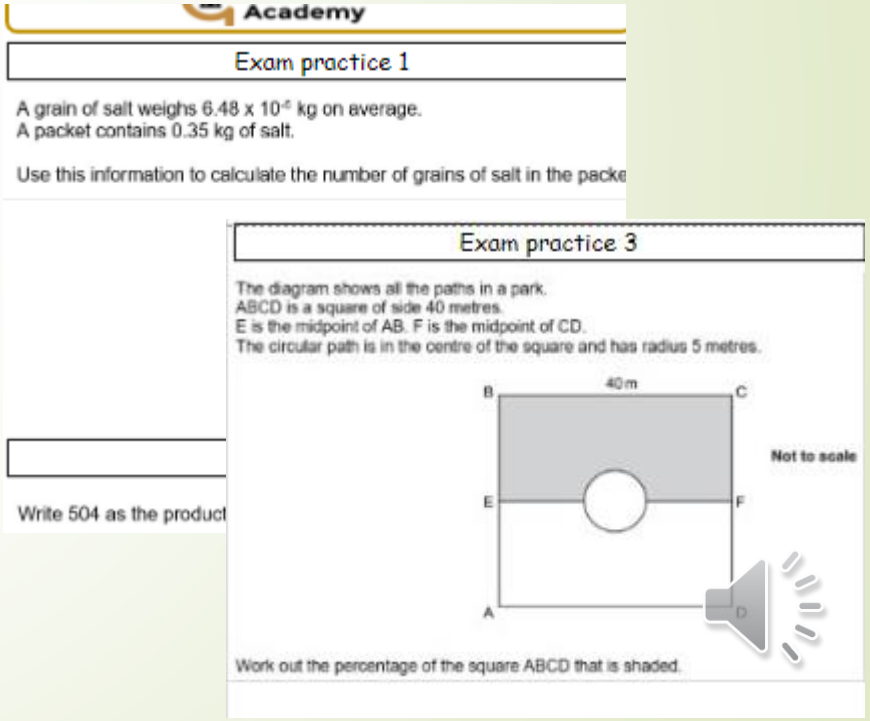
- Only pupils who achieve a grade 8 or 9 in January mocks in year 11 will be entered for this extra exam
- It will be an opt-in process, with the majority of the teaching taking place in Period 7 sessions.
- Some of the overlap topics will be taught in mainstream lessons to pupils covering the Higher syllabus.
- Helps bridge the gap to A-level but is not essential.

Homework (and form time) – At Year 11

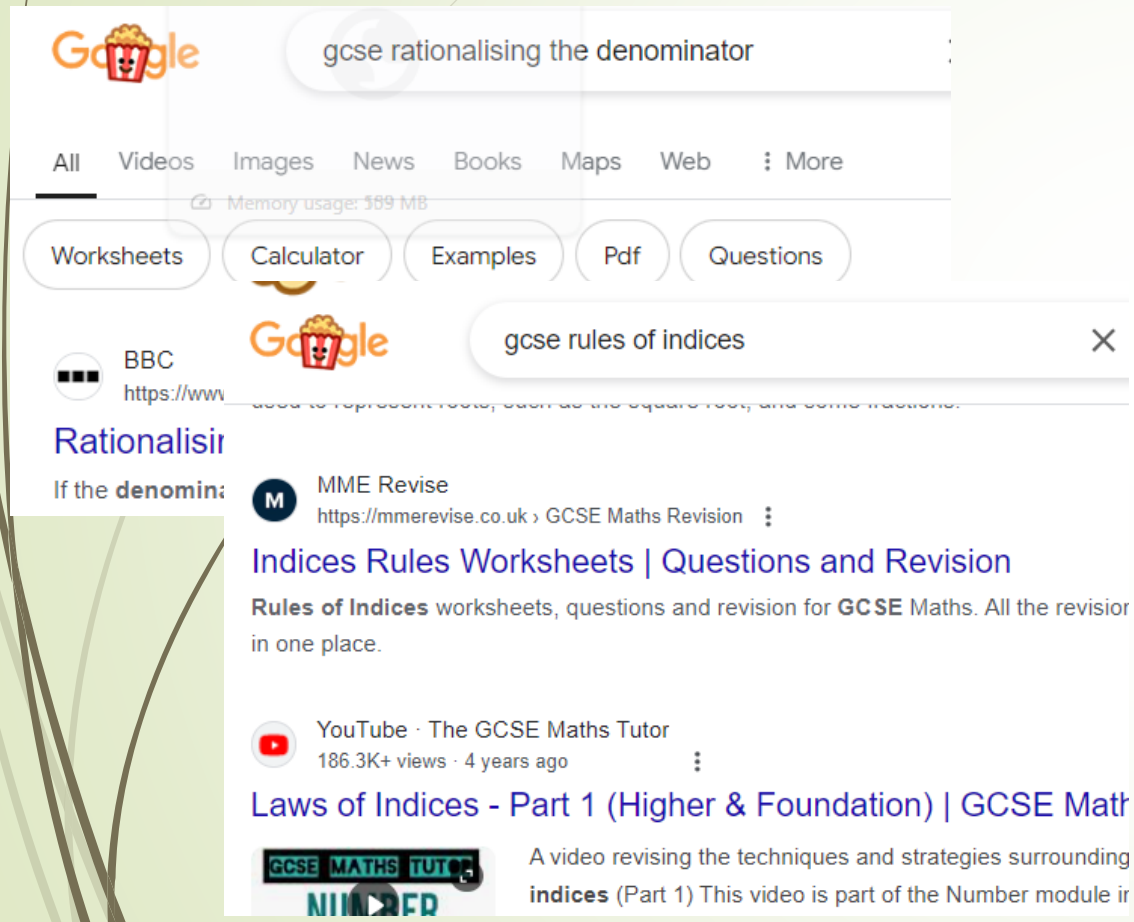
- All pupils have a booklet that is used for homework and during registration
- They complete a supported revision programme during registration on Tuesday and Thursday
- There are additional "Exam Practice" homework questions in the year 11 booklet to ensure breadth of coverage in the build up to the final exams – "little and often!"

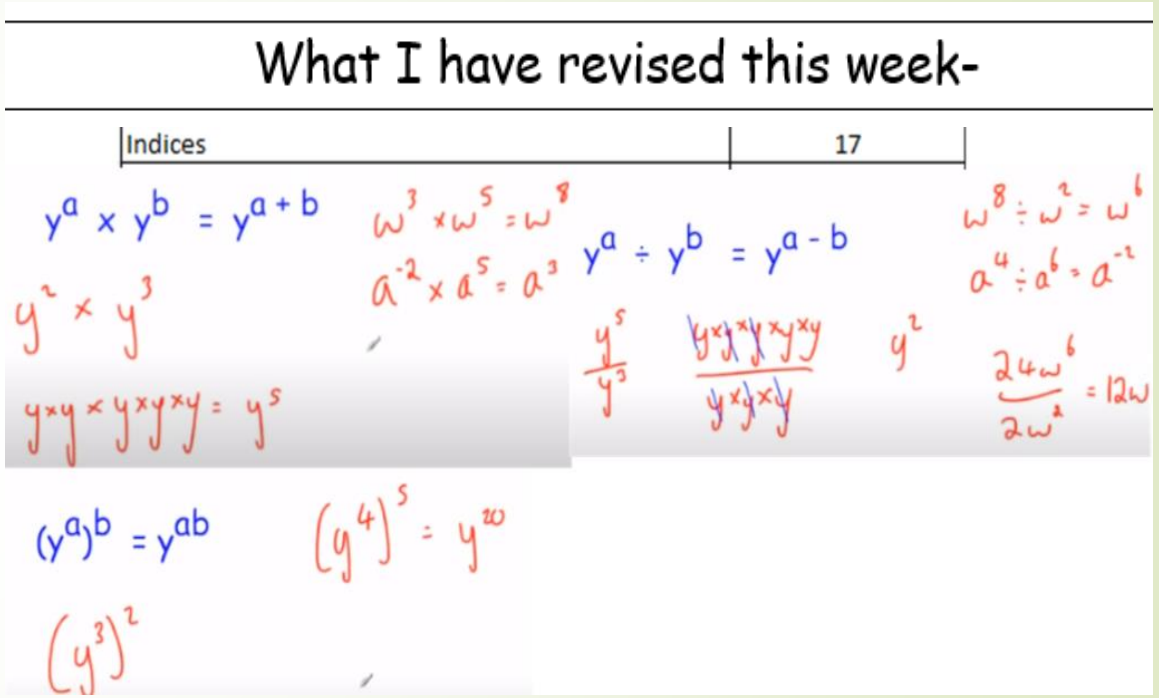






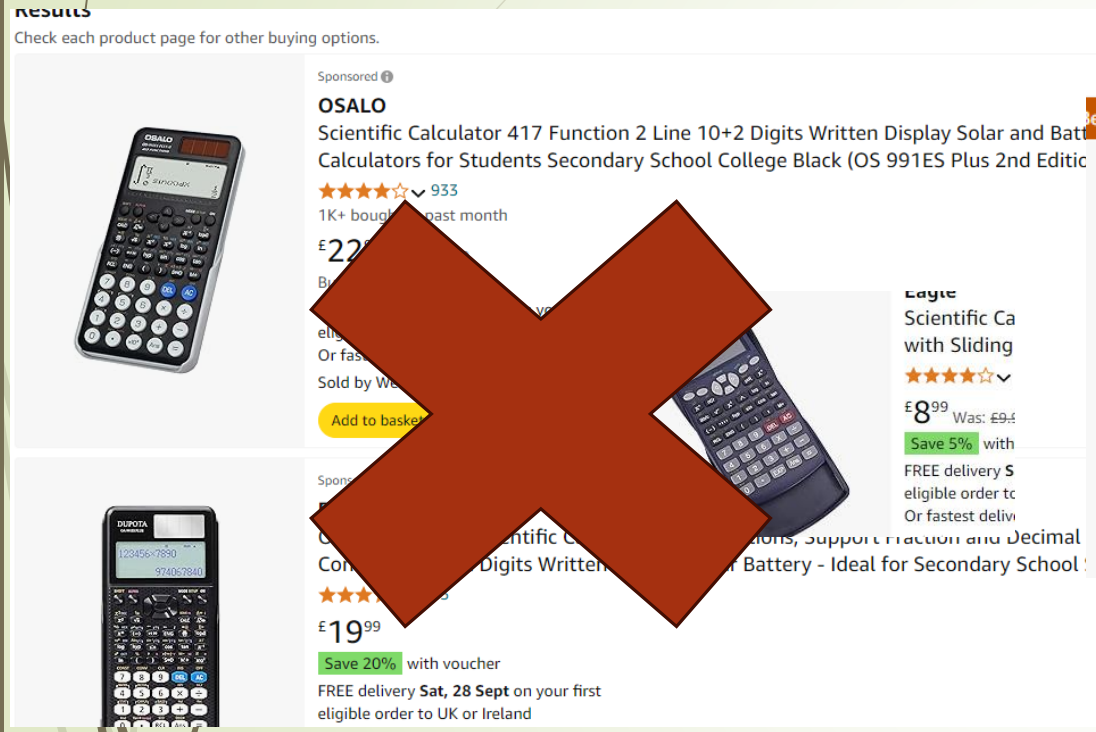
Support at home
- Make homework as purposeful as possible

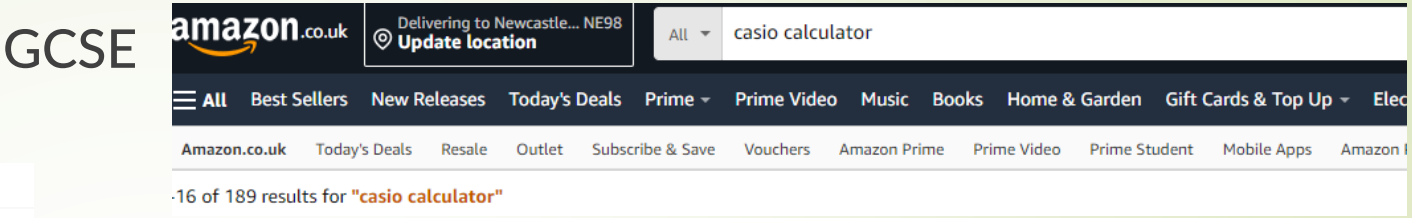


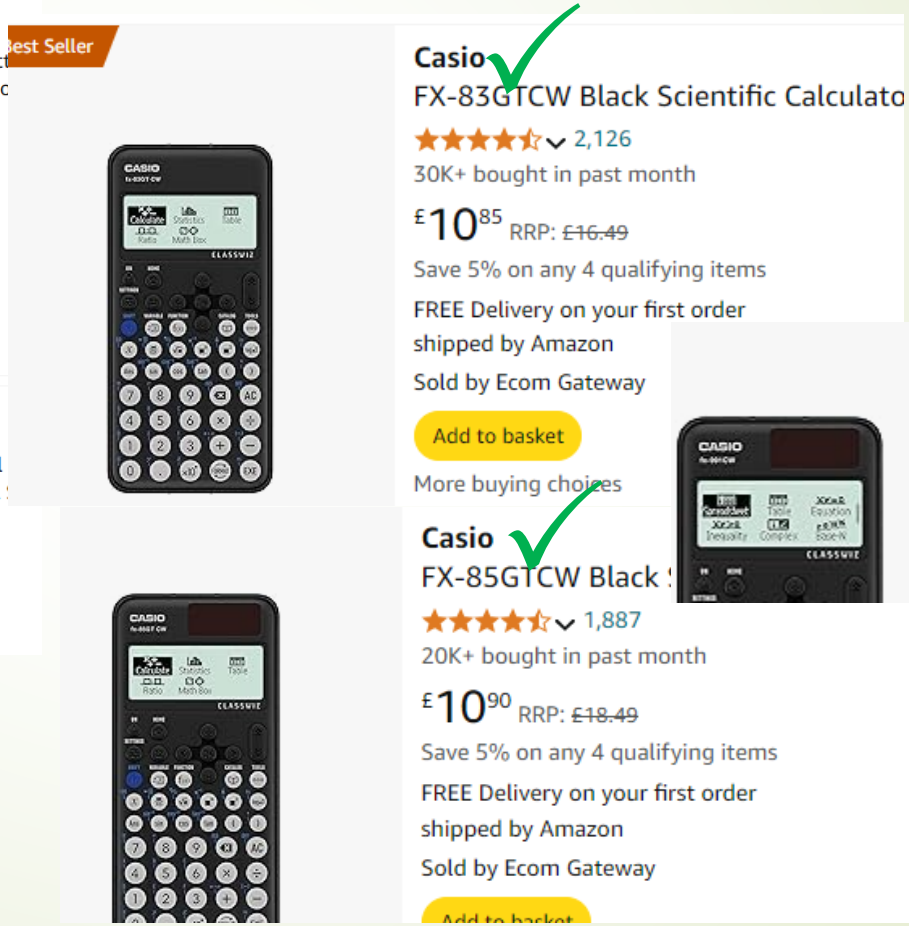


Useful resources

- A calculator! (Casio FX-83, FX-85, FX-991)
- Calculator familiarity is key at GCSE



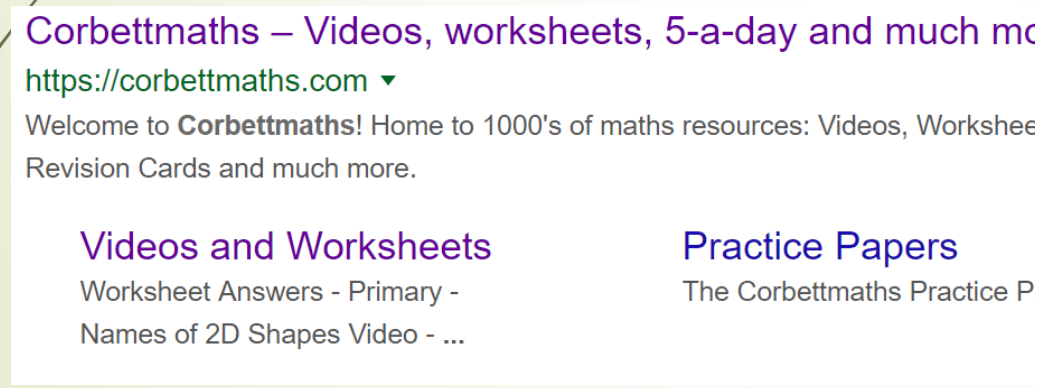




Only get "991" if likely to do A-level:

Useful resources – list on next page

- To support your child at home we encourage the use of Corbett Maths, Maths Genie and GCSE Bitesize
- Free websites with video guides and practice worksheets



Useful Maths Revision Websites

www.examq.co.uk/qualification/2

www.onmaths.com/our-top-top-topics

www.1stclassmaths.com

www.mathslinks.co.uk/gcse-questions-by-topic

www.gcsemathsquestions.co.uk

www.savemyexams.com/gcse

www.mathsgenie.co.uk

https://corbettmaths.com/contents/