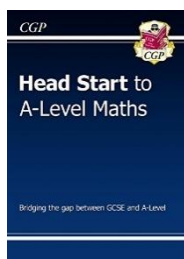


GCSE to A Level Maths Bridging Unit

If you are considering studying A Level Maths in September it is really important that you continue to keep up with your maths. There are several GCSE topics that appear on the Y12 syllabus so it is highly recommend you focus on these while you are off. I have attached an induction booklet covering crossover material that you can start working through, use a calculator for everything as at A Level calculators are allowed in all exams.

In addition to the induction booklet there are also some fantastic resources available online:

- Weekly Online Tutorials Covering Key Cross Over Topics - <https://alevelmathsrevision.com/bridging-the-gap/>
- A free textbook if you have a Kindle account: <https://www.amazon.co.uk/Head-Start-Level-Maths-2017-2018-ebook/dp/B06XD29GX2>



Other Online materials

- <https://www.pearson.com/uk/educators/schools/subject-area/mathematics/unrivalled-support/support-from-pearson/gcse-maths-transition-to-alevel.html>
- <http://www.cimt.org.uk/projects/mepres/step-up/index.htm>
- <https://www.dropbox.com/sh/ppm47xsrvr054p3/AACmzv67MzUCX2foylIMJpm-a?dl=0&preview=OCR+Bridging+The+Gap+amended.docx>
- <https://www.mathsgenie.co.uk/newalevel.html>
- <https://www.youtube.com/channel/UCCgGyPD6MYQcHuMIc-Kv-Uw>

Relevant Mathswatch and Corbettmaths videos and resources are detailed on the next 2 pages.

Year 11 Preparing for A-level Maths: Helpful Videos and Resources for Working From Home

	Topics to Prepare for A-level Maths	Mathswatch Videos and Resources (Requires your school login)	Cortbett Maths Videos and Resources (No subscription required)
1	Manipulating algebraic expressions	178 - Product of Three Binomials	15 - Algebra: expanding three brackets
2	Surds	207a - Surds - Introduction to Surds 207b - Surds - Surd Expressions 207c - Surds - Rationalising the Denominator	305 - Surds: intro, rules, simplifying 307 - Surds: rationalising denominators 308 - Surds: expanding brackets
3	Rules of indices	131 - Index Notation 154 - Negative Indices 188 - Fractional Indices	173 - Indices: fractional 174 - Indices: laws of 175 - Indices: negative
4	Factorising expressions	158 - The Difference of Two Squares 192 - Factorising Hard Quadratics	119a - Factorisation: splitting the middle 120 - Factorisation: difference of 2 squares
5	Completing the square	209a - Completing the Square - Basics 209b - Completing the Square - Solving 209c - Completing the Square - Sketching	10 - Algebra: completing the square
6	Solving quadratic equations	157 - Factorising and Solving Quadratics 191 - Solving Quadratics with the Formula	266 - Quadratics: solving (factorising) 267 - Quadratics: formula 267a - Quadratics: solving (completing the square)
7	Sketching quadratic graphs	160 - Roots and Turning Points of Quadratics	265 - Quadratic graphs: sketching using key points 371 - Quadratic graph (completing the square)
8	Solving linear simultaneous equations	162 - Simultaneous Equations Algebraically	295 - Simultaneous equations (elimination) 296 - Simultaneous equations (substitution, both linear)
9	Solving quadratic simultaneous equations	211 - Simultaneous Equations with a Quadratic	12 - Algebra: equation of a circle 298 - Simultaneous equations (advanced)
10	Solving simultaneous equations graphically	140 - Simultaneous Equations Graphically	297 - Simultaneous equations (graphical)
11	Linear inequalities	138 - Inequalities on a Number Line 139 - Solve Linear Inequalities	180 - Inequalities: graphical $y > a$ or $x > a$ 181 - Inequalities: graphical $y > x + a$ 182 - Inequalities: region
12	Quadratic inequalities	212 - Solve Quadratic Inequalities	378 - Inequalities: quadratic
13	Sketching cubic and reciprocal graphs	161 - Cubic and Reciprocal Graphs	344 - Types of graph: cubics 346 - Types of graph: reciprocal
14	Translating graphs	196a - Transformation of Functions - Polynomial Functions 196b - Transformation of Functions - Trigonometric Functions	323 - Transformations of graphs
15	Straight line graphs	159a - Finding the Equation of a Straight Line - $y = mx + c$ 159b - Finding the Equation - Gradient and Coordinates	194 - Linear graphs: find equation of a line 195 - Linear graphs: equation through 2 points

16	Parallel and perpendicular lines	208 - Perpendicular Lines	196 - Linear graphs: parallel lines 197 - Linear graphs: perpendicular lines 372 - Equation of a Tangent to a Circle
17	Pythagoras' Theorem	150c - Pythagoras' Theorem - Line on a Graph 217 - Pythagoras in 3D	259 - Pythagoras: 3D 260 - Pythagoras: rectangles/isosceles triangles 263 - Pythagoras: distance points
18	Direct and inverse proportion	199 - Direct and Inverse Proportion	254 - Proportion: direct 255 - Proportion: inverse
19	Circle theorems	183 - Circle Theorems 184 - Proof of Circle Theorems	64 - Circle theorems – theorems 65 - Circle theorems – examples
20	Trigonometry	168 - Trigonometry 173 - Exact Trigonometric Values 195a - Trigonometric Graphs - Sine and Cosine 195b - Trigonometric Graphs – Tangent 201 - The Sine Rule 202 - The Cosine Rule 203 - Area of a Triangle Using Sine 218 - Trigonometry in 3D	332 - Trigonometry: 3D 338 - Trigonometry: Sine graph 339 - Trigonometry: Cosine graph 340 - Trigonometry: Tangent graph 333 - Trigonometry: sine rule (sides) 334 - Trigonometry: sine rule (angles) 334a - Trigonometry: sine rule (ambiguous case) 335 - Trigonometry: cosine rule (sides) 336 - Trigonometry: cosine rule (angles)
21	Rearranging equations	190 - Rearranging difficult Formulae 210a - Algebraic Fractions – Simplifying 210b - Algebraic Fractions - Solving	111 - Equations: involving fractions 112 - Equations: fractional advanced 112 - Equations: cross multiplication
22	Volume and surface area of 3D shapes	169 - Spheres 170 - Pyramids 171 - Cones 172 - Frustums	359 - Volume: cone 360 - Volume: pyramid 360a - Volume: Frustum 361 - Volume: sphere 313 - Surface area: sphere 314 - Surface area: cone 315 - Surface area: cylinders
23	Area under a graph and gradients	216a - Interpreting Graphs - Velocity-Time Graphs 216b - Interpreting Graphs - Rate of Change	389 - Area under a Graph 390a - Instantaneous Rate of Change