

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

If you can, we recommended getting a copy of this resource, available for free on Amazon in kindle format

<https://www.amazon.co.uk/Head-Start-Level-Maths-2017-2018-ebook/dp/B06XD29GX2>

	Topics to Prepare for A-level Maths	Hegarty Maths Videos and Resources (Requires a school subscription)	Cortbett Maths Videos and Resources (No subscription required)
1	<b>Manipulating algebraic expressions</b>	166 - Expanding Triple Brackets 172 - Expressions with Algebraic Fractions	15 - Algebra: expanding three brackets 21 - Algebraic Fractions: addition 22 - Algebraic Fractions: division 23 - Algebraic Fractions: Multiplication
2	<b>Surds</b>	115 - Simplifying Surds 117 - Brackets Involving Surds 2 119 - Rationalising Surds 2	305 - Surds: intro, rules, simplifying 307 - Surds: rationalising denominators 308 - Surds: expanding brackets
3	<b>Rules of indices</b>	104 – Index form 3 (power of negative integers) 109 – Index form 8 (powers of non-unit fractions) 174 - Indices With Algebraic Expressions 2 175 - Indices With Algebraic Expressions 3	173 - Indices: fractional 174 - Indices: laws of 175 - Indices: negative
4	<b>Factorising expressions</b>	227 - Factorising Quadratic Expressions 5 228 - Factorising Quadratic Expressions 6 229 - Simplifying Algebraic Fractions (involving quadratics)	119a - Factorisation: splitting the middle 120 - Factorisation: difference of 2 squares 24 - Algebraic Fractions: Simplifying
5	<b>Completing the square</b>	235 - Completing the Square 1 236 - Completing the Square 2 237 - Completing the Square 3	10 - Algebra: completing the square
6	<b>Solving quadratic equations</b>	232 - Solving Quadratic Equations (by Factorising) 3 238 - Solving by Completing the Square 1 242 - Solving using the Quadratic Formula 244 - Quadratic Equations from Algebraic Fractions	266 - Quadratics: solving (factorising) 267 - Quadratics: formula 267a - Quadratics: solving (completing the square)
7	<b>Sketching quadratic graphs</b>	252 - Finding the y-intercept of a Quadratic Graph 253 - Finding the x-intercept (Roots) of a Quadratic Graph 256 - Finding the Turning Point of a Quadratic Graph 2 257 - Sketch a Fully Labelled Quadratic Graph	265 - Quadratic graphs: sketching using key points 371 - Quadratic graph (completing the square)

8	<b>Solving linear simultaneous equations</b>	193 - Simultaneous Equations by Elimination 4 194 - Simultaneous Equations by Substitution	295 - Simultaneous equations (elimination) 296 - Simultaneous equations (substitution, both linear)
9	<b>Solving quadratic simultaneous equations</b>	314 - Equation of a Circle 1 246 - Simultaneous Equations Involving Quadratics	12 - Algebra: equation of a circle 298 - Simultaneous equations (advanced)
10	<b>Solving simultaneous equations graphically</b>	259 - Simultaneous Equations Using Graphs (Quadratic & Linear)	297 - Simultaneous equations (graphical)
11	<b>Linear inequalities</b>	273 - Linear Inequalities as Graph Regions 1 274 - Linear Inequalities as Graph Regions 2 275 - Linear Inequalities as Graph Regions 3	180 - Inequalities: graphical $y > a$ or $x > a$ 181 - Inequalities: graphical $y > x + a$ 182 - Inequalities: region
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13	<b>Sketching cubic and reciprocal graphs</b>	298 - Cubic Graphs (from a Table of Values) 299 - Cubic Graphs (Recognising) 300 - Reciprocal Graphs 1	344 – Types of graph: cubics 346 - Types of graph: reciprocal
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16	<b>Parallel and perpendicular lines</b>	214 - Straight Line Graphs (Parallel) 216 - Straight Line Graphs (Perpendicular) 2 320 - Circle Normals and Tangents	196 - Linear graphs: parallel lines 197 - Linear graphs: perpendicular lines 372 - Equation of a Tangent to a Circle
17	<b>Pythagoras' Theorem</b>	506 - 3D Pythagoras 2 501 - Pythagoras (Applied) 1 502 - Pythagoras (Applied) 2	259 - Pythagoras: 3D 260 - Pythagoras: rectangles/isosceles triangles 263 - Pythagoras: distance points
18	<b>Direct and inverse proportion</b>	344 – Algebraic Direct Proportion 2 346 – Algebraic Inverse Proportion 1	254 - Proportion: direct 255 - Proportion: inverse
19	<b>Circle theorems</b>	604 - Circle Theorems (Multi Step) 1 605 - Circle Theorems (Multi Step) 2 606 - Circle Theorems (Multi Step) 3	64 - Circle theorems – theorems 65 - Circle theorems – examples
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