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

	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	**Manipulating algebraic expressions**	166 - Expanding Triple Brackets	15 - Algebra: expanding three brackets
2	**Surds**	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	**Rules of indices**	104 – Index form 3 (power of negative integers) 109 – Index form 8 (powers of non-unit fractions) 174 - Indices With Algebraic Expressions 2	173 - Indices: fractional 174 - Indices: laws of 175 - Indices: negative
4	**Factorising expressions**	Factorising Quadratic Expressions 5 Factorising Quadratic Expressions 6	119a - Factorisation: splitting the middle 120 - Factorisation: difference of 2 squares
5	**Completing the square**	235 - Completing the Square 1 236 - Completing the Square 2 237 - Completing the Square 3	10 - Algebra: completing the square
6	**Solving quadratic equations**	232 - Solving Quadratic Equations (by Factorising) 3 238 - Solving by Completing the Square 1 242 - Solving using the quadratic formulae	266 - Quadratics: solving (factorising) 267 - Quadratics: formula 267a - Quadratics: solving (completing the square)
7	**Sketching quadratic graphs**	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 Labbeled Quadratic Graph	265 - Quadratic graphs: sketching using key points 371 - Quadratic graph (completing the square)
8	**Solving linear simultaneous equations**	193 - Simultaneous Equations by Elimination 4 194 - Simultaneous Equations by Substtution	295 - Simultaneous equations (elimination) 296 - imultaneous equations (substitution, both linear)
9	**Solving quadratic simultaneous equations**	314 - Equation of a Circle 1 246 - Simultaneous Equations Involving Quadratics	12 - Algebra: equation of a circle 298 - Simultaneous equations (advanced)
10	**Solving simultaneous equations graphically**	259 - Simultaneous Equations Using Graphs (Quadratic & Linear)	297 - Simultaneous equations (graphical)
11	**Linear inequalities**	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
12	**Quadratic inequalities**	277 - Solving Quadratic Inequalities	378 - Inequalities: quadratic
13	**Sketching cubic and reciprocal graphs**	298 - Cubic Graphs (from a Table of Values) 299 - Cubic Graphs (Recognising)	344 – Types of graph: cubics 346 - Types of graph: reciprocal

		300 - Reciprocal Graphs 1	
14	**Translating graphs**	307 - Graph Transformations 1 f(x)+a 308 - Graph Transformations 2 f(x+a)	323 - Transformations of graphs
15	**Straight line graphs**	210 - Straight Lines Graphs 5 213 - Straight Lines Graphs 8	194 - Linear graphs: find equation of a line 195 - Linear graphs: equation through 2 points
16	**Parallel and perpendicular lines**	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	**Pythagoras' Theorem**	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	**Direct and inverse proportion**	344 – Algebraic Direct Proportion 2 346 – Algebraic Inverse Proportion 1	254 - Proportion: direct 255 - Proportion: inverse
19	**Circle theorems**	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
20	**Trigonometry**	585 - 3D Trigonometry 5 303 - Sine Graph 304 - Cosine Graph 305 - Tangent Graph 521 - Sine Rule (Find Side) 1 523 - Sine Rule (Find Angle) 1 525 - Singe Rule (Ambiguous Case) 527 - Cosine Rule (Find Side) 1 529 – Consine Rule (Find Angle) 1	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**	186 - Solve Equations With x on Both Sides 3 187 - Solve Equations With Algebraic Fractions	111 - Equations: involving fractions 112 - Equations: fractional advanced 112 - Equations: cross multiplication
22	**Volume and surface area of 3D shapes**	576 - Cones (Volume) 1 578 - Frustrums (Volume) 579 - Rectangular Based Pyramids (Volume) 580 - Spheres (Volume) 1	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**	892 - Area Under a Curve 2	389 - Area under a Graph

		893 - Area Under a Curve 3 889 - Gradient at a Point on a Curve 890 – Instantaneous Rate of Change	390a - Instantaneous Rate of Change

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