



## PREPARING FOR A-LEVEL

### MATHEMATICS

Please look at the list of topics below. Start with the topics in which you are least confident and work through the tutorials.

	<b>Video</b>	<b>Exam Questions</b>	<b>Exam Question booklet</b>	<b>Booklet Answers</b>
1a-1 Expanding brackets & simplifying	<a href="#">Expanding and Factorising</a>	<a href="#">Exam Questions</a>	<a href="#">Expand and Factorise</a>	<a href="#">Solutions</a>
1a-1 Expanding brackets (triple brackets)	<a href="#">Expanding Triple Brackets</a>	<a href="#">Exam Questions</a>	<a href="#">Expanding Triple Brackets</a>	<a href="#">Solutions</a>
1a-2 Surds	<a href="#">Surds</a>	<a href="#">Exam Questions</a>	<a href="#">Surds</a>	<a href="#">Solutions</a>
1a-3 Rules of indices	<a href="#">Indices</a>	<a href="#">Exam Questions</a>	<a href="#">Indices</a>	<a href="#">Solutions</a>
1a-3 Rules of indices (fractional and negative)	<a href="#">Fractional and Negative Indices</a>	<a href="#">Exam Questions</a>	<a href="#">Fractional and Negative Indices</a>	<a href="#">Solutions</a>
1b-1 Factorising expressions	<a href="#">Expanding and Factorising</a>	<a href="#">Exam Questions</a>	<a href="#">Expand and Factorise</a>	<a href="#">Solutions</a>
1b-1 Factorising expressions (algebraic fractions)	<a href="#">Algebraic Fractions</a>	<a href="#">Exam Questions</a>	<a href="#">Algebraic Fractions</a>	<a href="#">Solutions</a>
1b-2 Completing the square	<a href="#">Completing the Square</a>	<a href="#">Exam Questions</a>	<a href="#">Completing the Square</a>	<a href="#">Solutions</a>
1b-3 Solving quadratics	<a href="#">Solving Quadratics</a>	<a href="#">Exam Questions</a>	<a href="#">Solving Quadratics</a>	<a href="#">Solutions</a>
1b-3 Solving quadratics (formula)	<a href="#">Quadratic Formula</a>	<a href="#">Exam Questions</a>	<a href="#">Quadratic Formula</a>	<a href="#">Solutions</a>
1b-3 Solving quadratics (harder factorising)	<a href="#">Factorising Harder Quadratics</a>	<a href="#">Exam Questions</a>	<a href="#">Factorising Harder Quadratics</a>	<a href="#">Solutions</a>
1b-4 Sketching quadratic graphs	<a href="#">Drawing Quadratic Graphs</a>	<a href="#">Exam Questions</a>	<a href="#">Quadratic Graphs</a>	<a href="#">Solutions</a>
1c-1 Solving linear simultaneous equations	<a href="#">Simultaneous Equations</a>	<a href="#">Exam Questions</a>	<a href="#">Simultaneous Equations</a>	<a href="#">Solutions</a>
1c-2 Solving non-linear simultaneous equations	<a href="#">Quadratic Simultaneous Equations</a>	<a href="#">Exam Question s</a>	<a href="#">Quadratic Simultaneous Equations</a>	<a href="#">Solutions</a>
1c-3 Solving simultaneous equations graphically	<a href="#">Solving Simultaneous Equations Graphically</a>	<a href="#">Exam Questions</a>	<a href="#">Solving Simultaneous Equations Graphically</a>	<a href="#">Solutions</a>

			<a href="#">ns</a>
1d-1 Linear Inequalities	<a href="#">Inequalities on Graphs</a>	<a href="#">Inequalities on Graphs</a>	<a href="#">Solutions</a>
1d-2 Quadratic Inequalities	<a href="#">Quadratic Inequalities</a>	<a href="#">Exam Questions</a>	<a href="#">Quadratic Inequalities Solutions</a>
1e Sketching cubic and reciprocal graphs	<a href="#">Drawing Other Graphs: Cubic/Reciprocal</a>	<a href="#">Cubic/Reciprocal Graphs</a>	<a href="#">Solutions</a>
1f Translating graphs	<a href="#">Transforming Graphs y=f(x)</a>	<a href="#">Transforming Graphs y=f(x)</a>	<a href="#">Solutions</a>

	Video	Exam Questions	Exam Question Booklet	Booklet Answers
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1a-1 Expanding brackets (triple brackets)	<a href="#">Expanding Triple Brackets</a>	<a href="#">Exam Questions</a>	<a href="#">Expanding Triple Brackets</a>	<a href="#">Solutions</a>
1a-2 Surds	<a href="#">Surds</a>	<a href="#">Exam Questions</a>	<a href="#">Surds</a>	<a href="#">Solutions</a>
1a-3 Rules of indices	<a href="#">Indices</a>	<a href="#">Exam Questions</a>	<a href="#">Indices</a>	<a href="#">Solutions</a>
1a-3 Rules of indices (fractional and negative)	<a href="#">Fractional and Negative Indices</a>	<a href="#">Exam Questions</a>	<a href="#">Fractional and Negative Indices</a>	<a href="#">Solutions</a>
1b-1 Factorising expressions	<a href="#">Expanding and Factorising</a>	<a href="#">Exam Questions</a>	<a href="#">Expand and Factorise</a>	<a href="#">Solutions</a>
1b-1 Factorising expressions (algebraic fractions)	<a href="#">Algebraic Fractions</a>	<a href="#">Exam Questions</a>	<a href="#">Algebraic Fractions</a>	<a href="#">Solutions</a>
1b-2 Completing the square	<a href="#">Completing the Square</a>	<a href="#">Exam Questions</a>	<a href="#">Completing the Square</a>	<a href="#">Solutions</a>
1b-3 Solving quadratics	<a href="#">Solving Quadratics</a>	<a href="#">Solving Quadratics</a>	<a href="#">Solving Quadratics</a>	<a href="#">Solutions</a>
1b-3 Solving quadratics (formula)	<a href="#">Quadratic Formula</a>	<a href="#">Exam Questions</a>	<a href="#">Quadratic Formula</a>	<a href="#">Solutions</a>
1b-3 Solving quadratics (harder factorising)	<a href="#">Factorising Harder Quadratics</a>	<a href="#">Exam Questions</a>	<a href="#">Factorising Harder Quadratics</a>	<a href="#">Solutions</a>
1b-4 Sketching quadratic graphs	<a href="#">Drawing Quadratic Graphs</a>	<a href="#">Quadratic Graphs</a>	<a href="#">Quadratic Graphs</a>	<a href="#">Solutions</a>
1c-1 Solving linear simultaneous equations	<a href="#">Simultaneous Equations</a>	<a href="#">Exam Questions</a>	<a href="#">Simultaneous Equations</a>	<a href="#">Solutions</a>
1c-2 Solving non-linear simultaneous equations	<a href="#">Quadratic Simultaneous Equations</a>	<a href="#">Exam Questions</a>	<a href="#">Quadratic Simultaneous Equations</a>	<a href="#">Solutions</a>
1c-3 Solving simultaneous equations graphically	<a href="#">Solving Simultaneous Equations Graphically</a>	<a href="#">Solving Simultaneous Equations Graphically</a>	<a href="#">Solving Simultaneous Equations Graphically</a>	<a href="#">Solutions</a>
1d-1 Linear Inequalities	<a href="#">Inequalities on Graphs</a>	<a href="#">Inequalities on Graphs</a>	<a href="#">Inequalities on Graphs</a>	<a href="#">Solutions</a>
1d-2 Quadratic Inequalities	<a href="#">Quadratic Inequalities</a>	<a href="#">Exam Questions</a>	<a href="#">Quadratic Inequalities</a>	<a href="#">Solutions</a>
1e Sketching cubic and reciprocal graphs	<a href="#">Drawing Other Graphs: Cubic/Reciprocal</a>	<a href="#">Cubic/Reciprocal Graphs</a>	<a href="#">Cubic/Reciprocal Graphs</a>	<a href="#">Solutions</a>
1f Translating graphs	<a href="#">Transforming Graphs <math>y=f(x)</math></a>	<a href="#">Transforming Graphs <math>y=f(x)</math></a>	<a href="#">Transforming Graphs <math>y=f(x)</math></a>	<a href="#">Solutions</a>
2a-1 Straight line graphs	<a href="#">Equation of a Line</a>	<a href="#">Exam Questions</a>	<a href="#">Equation of a Line</a>	<a href="#">Solutions</a>
2a-2 Parallel and perpendicular graphs	<a href="#">Parallel and Perpendicular Lines</a>	<a href="#">Exam Questions</a>	<a href="#">Parallel and Perpendicular Lines</a>	<a href="#">Solutions</a>
2a-2 Parallel and perpendicular graphs	<a href="#">Perpendicular lines &amp; eq. of a tangent</a>	<a href="#">Exam Questions</a>	<a href="#">Perpendicular Lines</a>	<a href="#">Solutions</a>

perpendicular graphs (hards)				
2a-3 Pythagoras' theorem	<a href="#">Pythagoras</a>	<a href="#">Exam Questions</a>	<a href="#">Pythagoras</a>	<a href="#">Solutions</a>
2a-3 Pythagoras' theorem (3D)	<a href="#">3d Pythagoras</a>		<a href="#">3d Pythagoras</a>	<a href="#">Solutions</a>
2a-4 Proportionality	<a href="#">Direct and Inverse</a>	<a href="#">Exam</a>	<a href="#">Direct and Inverse</a>	<a href="#">Solution</a>
	<a href="#">Proportion</a>	<a href="#">Questions</a>	<a href="#">Proportion</a>	<a href="#">s</a>
2b Circle theorems	<a href="#">Circle Theorems</a>		<a href="#">Circle Theorems</a>	<a href="#">Solutions</a>
4a Trigonometry (triangles)	<a href="#">SOHCAHTOA (Trigonometry)</a>	<a href="#">Exam Questions</a>	<a href="#">SOHCAHTOA</a>	<a href="#">Solutions</a>
4a Trigonometry (triangles) – sine rule	<a href="#">The Sine Rule</a>	<a href="#">Exam Questions</a>	<a href="#">The Sine Rule</a>	<a href="#">Solutions</a>
4a Trigonometry (triangles) – cosine rule	<a href="#">The Cosine Rule</a>	<a href="#">Exam Questions</a>	<a href="#">The Cosine Rule</a>	<a href="#">Solutions</a>
6a Rearranging equations	<a href="#">Rearranging Harder</a>	<a href="#">Exam</a>	<a href="#">Rearranging Harder</a>	<a href="#">Solution</a>
	<a href="#">Formulae</a>	<a href="#">Questions</a>	<a href="#">Formulae</a>	<a href="#">s</a>
6b Vol & surface area of 3-D shapes	<a href="#">Volume of a Prism</a>	<a href="#">Exam Questions</a>	<a href="#">Volume of Prisms</a>	<a href="#">Solutions</a>
6b Surface Area	<a href="#">Surface Area</a>	<a href="#">Exam Questions</a>	<a href="#">Surface Area</a>	<a href="#">Solutions</a>
1c-1 Solving linear simultaneous equations	<a href="#">Simultaneous Equations</a>	<a href="#">Exam Questions</a>	<a href="#">Simultaneous Equations</a>	<a href="#">Solutions</a>
1c-2 Solving non-linear simultaneous equations	<a href="#">Quadratic Simultaneous Equations</a>	<a href="#">Exam</a>	<a href="#">Quadratic Simultaneous Equations</a>	<a href="#">Solutions</a>
1c-3 Solving simultaneous equations graphically	<a href="#">Solving Simultaneous Equations Graphically</a>	<a href="#">Exam</a>	<a href="#">Solving Simultaneous Equations Graphically</a>	<a href="#">Solutions</a>
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2a-2 Parallel and perpendicular graphs	<a href="#">Parallel and Perpendicular Lines</a>	<a href="#">Exam</a>	<a href="#">Parallel and Perpendicular Lines</a>	<a href="#">Solutions</a>
2a-2 Parallel and perpendicular graphs (harder)	<a href="#">Perpendicular lines &amp; eq. of a tangent</a>	<a href="#">Exam</a>	<a href="#">Perpendicular Lines</a>	<a href="#">Solutions</a>
		<a href="#">Questions</a>		<a href="#">s</a>

2a-3 Pythagoras' theorem	<a href="#">Pythagoras</a>	<a href="#">Exam Questions</a>	<a href="#">Pythagoras</a>	<a href="#">Solutions</a>
2a-3 Pythagoras' theorem (3D)	<a href="#">3d Pythagoras</a>	<a href="#">3d Pythagoras</a>	<a href="#">Solutions</a>	
2a-4 Proportionality	<a href="#">Direct and Inverse</a>	<a href="#">Exam Questions</a>	<a href="#">Direct and Inverse</a>	<a href="#">Solution</a>
	<a href="#">Proportion</a>	<a href="#">Questions</a>	<a href="#">Proportion</a>	<a href="#">s</a>
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6b Vol & surface area of 3-D shapes	<a href="#">Volume of a Prism</a>	<a href="#">Exam Questions</a>	<a href="#">Volume of Prisms</a>	<a href="#">Solutions</a>

## Summary

Most importantly, use this summer to investigate what you are most fascinated by. This preparation work is something that you have control over and you can take it in the direction wish. For example, if you are particularly interested in the Gestapo (Nazi secret police), then feel free to focus your reading on them. On the other hand, if you're more interested in the Hitler Youth (A Nazi youth movement) then spend more time focusing on that.

## 6b Surface Area