

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
	Graphs							Alge	ebra			
Autumn	Gradients & lines		Non-linear graphs		Using graphs		Expanding & factorising		Changing the subject		Functions	
	Reasoning				Revision and Communication							
Spring	Multiplicative Geometric		netric	Algebraic		Transforming& constructing		Listing & describing	Show	that		
Summer			Revi	sion					Examir	nations		

Year 11 | Autumn Term 1 | Gradients & lines



Gradients & lines

Small Steps

Equations of lines parallel to the axis	R
Plot straight line graphs	R
Interpret $y = mx + c$	R
Find the equation of a straight line from a graph (1)	R
Find the equation of a straight line from a graph (2)	

- Equation of a straight-line graph given one point and gradient
- Equation of a straight-line graph given two points
 - Determine whether a point is on a line



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Year 11 Autumn Term 1 Gradients & lines



Gradients & lines

Small Steps

Solve linear simultaneous equations graphically	R
Recognise when straight lines are perpendicular	H
Find the equations of perpendicular lines	H



Year 11 Autumn Term 2 Non-linear graphs



Non-linear graphs

Plot and read from quadratic graphs	
Plot and read from cubic graphs	
Plot and read from reciprocal graphs	
Recognise graph shapes	
Identify and interpret roots and intercepts of quadratics	
Understand and use exponential graphs	H
Find and use the equation of a circle centre (0, 0)	H
Find the equation of the tangent to any curve	H
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Year 11 Autumn Term 3 Using Graphs



R

Using graphs Small Steps

- Reflect shapes in given lines
- Construct and interpret conversion graphs
- Construct and interpret other real-life straight line graphs
- Interpret distance/time graphs
- Construct distance/time graphs
- Construct and interpret speed/time graphs
- Construct and interpret piece-wise graphs
- Recognise and interpret graphs that illustrate direct and inverse proportion



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Year 11 Autumn Term 3 Using Graphs



Using graphs Small Steps

Find approximate solutions to equations using graphs

Estimate the area under a curve



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Year 11 Autumn 4 Expanding and factorising



Expanding and factorising

Expand and factorise with a single bracket	R
Expand binomials	R
Factorise quadratic expressions	
Factorise complex quadratic expressions	H
Solve equations equal to O	
Solve quadratic equations by factorisation	
Solve complex quadratic expressions by factorisation	H
Complete the square	H
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Expanding and factorising Small Steps

Solve quadratic equations using the quadratic formula



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H







Changing the subject Small Steps

Solve linear equations	R
Solve inequalities	R
Form and solve equations and inequalities in the context of shape	
Change the subject of a simple formula	R
Change the subject of a known formula	
Change the subject of a complex formula	
Change the subject where the subject appears more than once	H
Solve equations by iteration	H
H denotes Higher Tier GCSE content	
R denotes 'review step' – content should have been covered at KS3	

Year 11 | Autumn Term 6 | Functions

Functions

- Use function machines
- Substitute into expressions and formulae
- Use function notation
- Work with composite functions
- Work with inverse functions
- Graphs of quadratic functions
- Solve quadratic inequalities
- Understand and use trigonometric functions
 - denotes Higher Tier GCSE content
 - R denotes 'review step' content should have been covered at KS3









Multiplicative Reasoning

Small Steps

- Use scale factors
- Understand direct proportion
- Construct complex direct proportion equations
- Calculate with pressure and density
- Understand inverse proportion
- Construct inverse proportion equations
- Ratio problems







Geometric Reasoning

Angles at points	R
Angles in parallel lines and shapes	R
Exterior and interior angles of polygons	
Proving geometric facts	
Solve problems involving vectors	
The first four circle theorems	R H
Angle between a radius and a chord	H
Angle between a radius and a tangent	H
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Geometric Reasoning

Small Steps

	Two tangents from a point
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- Alternate segment theorem
- Pythagoras' theorem and trigonometrical ratios





Year 11 | Spring Term 4 | Transforming and Constructing



Transforming and Constructing Small Steps

Perform and describe line symmetry and reflection	R
Perform and describe rotation/rotational symmetry	R
Perform and describe translations of shapes	R
Perform and describe enlargements of shapes	R
Perform and describe negative enlargements of shapes	R H
Identify transformations of shapes	R
Perform and describe a series of transformations of shapes	
Identify invariant points and lines	H
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Year 11 | Spring Term 4 | Transforming and Constructing



Transforming and Constructing Small Steps

Perform standard constructions using ruler and protractor or ruler and compasses	R
Solve loci problems	
Understand and use trigonometrical graphs	H
Sketch and identify translations of the graph of a given function	H
Sketch and identify reflections of the graph of a given function	H



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Year 11 | Spring Term 5 | Listing and Describing



Listing and Describing

Small Steps

Work with organised lists	
Sample spaces and probability	R
Use the product rule for counting	H
Complete and use Venn diagrams	R
Construct and interpret plans and elevations	R
Use data to compare distributions	R
Interpreting scatter diagrams	R
	Work with organised listsSample spaces and probabilityUse the product rule for countingComplete and use Venn diagramsConstruct and interpret plans and elevationsUse data to compare distributionsInterpreting scatter diagrams



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Year 11 | Spring Term 6 | Show that



Show that

Small Steps

- "Show that" with number
- "Show that" with algebra
- "Show that" with shape
- "Show that" with angles
- "Show that" with data
 - "Show that" with vectors
- "Show that" with congruent triangles
 - Formal proof with congruent triangles
 - H denotes Higher Tier GCSE content
 - R denotes 'review step' content should have been covered at KS3

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