

Year 11 Autumn

Foundation

Higher

Circles, cylinders, cones and spheres

- Parts of a circle
- Area and circumference of circles
- Find radius given area or perimeter of circular objects
- Area and perimeter of semicircles and quarter circles
- Surface area and volume of cylinders
- Surface area and volume of spheres, pyramids, cones and composite solids
- Round answers to a given degree of accuracy
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Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics

- Sketch quadratic functions
- Roots of quadratic equations graphically
- Expand triple brackets
- Intersection of linear and quadratic functions
- Cubic and exponential graphs
- Solve simultaneous equations graphically
- Simultaneous equation involving one linear and one quadratic
- Equation of circles and intersection with straight lines
- Quadratic inequalities
- Representing solutions of quadratic inequalities
- Solutions of several inequalities
- Iterations with simple convergence

Fractions and reciprocals

- Add and subtract mixed numbers
- Multiply mixed fractions
- Divide mixed fractions
- Reciprocal of an integers, decimals and fractions

Circle Theorem

- Parts of a circle
- Angle subtended at centre is twice the angle subtended on the remaining part of the circumference
- Angle in a semi-circle is a right angle
- Alternate segment theorem
- Opposite angles of a cyclic quadrilateral
- Tangents to a circle theorem
- Find missing angles using isosceles triangle and circle theorems

Indices and Standard forms

- Laws of indices
- Express large numbers in standard form

Circle Geometry

- Equation of a circle
- Gradient of the radius of a circle

<ul style="list-style-type: none"> - Express small numbers in standard form - Add and subtract numbers in standard form - Multiply and divide numbers in standard form - Standard form and problem solving 	<ul style="list-style-type: none"> - Gradient of a tangent to a circle - Equation of tangents to a circle
<p>Revision for mock exams</p>	<p>Changing the subject of formulae (more complex), algebraic fractions, solving equations arising from algebraic fractions, rationalising surds, proof</p> <ul style="list-style-type: none"> - Simplify algebraic fractions - Add and subtract algebraic fractions - Multiply and divide algebraic fractions - Solve quadratic equations arising from algebraic fractions - Change the subject of formula, including subject on both sides - Algebraic proofs - Function notations - Composite functions - Inverse functions - Functions and problem solving
<p>Revision for mock exams</p>	
<p>Mock Exams</p>	
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