Year 11   Topic and Contents

Regular assessments will take place in class at the end of each topic.
Formal mocks examinations will take place in Term 3 and Term 4.
National examinations will take place in May/June..

We complete teaching the content of the AQA curriculum at the end of Term 2 in Year 11. This gives all students the opportunity to spend their time between their mock exams in January and their final exams in May to focus on bespoke learning plans, revision techniques and exam practice.

Term 1

Chapter 9

Estimation and approximation: Students should be able to
- Use standard units of length, mass, volume, capacity, time and area
- Use inequality notation to state error intervals and interpret limits of accuracy

- round to the given place value and significant figures
- round and use approximation to estimate the answers
- Check the answers using technology (Calculators)
- Know how to apply the order of operations with your calculator
- Use a scientific calculator to carry out more complex calculations that involve decimals
- Approximate to the appropriate degree of accuracy
- Measure length, mass and capacity using metric units
- Use standard units of length, mass, volume, capacity, time and area
- Use inequality notation to state error intervals and interpret limits of accuracy
- Use standard metric units of mass, length and other compound measures involving speed and density
- Change freely between related standard units and compound units in numerical context
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Upper and Lower bound,Error interval
- Apply and interpret limits of accuracy, including upper and lower bounds

Area and circumference of a circle: Students should be able to

- Recap area and perimeter of shapes
- Identify and apply circle definitions and properties like centre, radius, chord, diameter, circumference, arc, tangent, segment, sector,
- Find the area and circumference of a circle and composite shapes involving circles,using the formula for area and circumference of a circle
- Find the area and circumference of a circle and composite shapes involving circles, using the formula for area and circumference of a circle
- Calculate arc lengths, angles and areas of sectors, and composite shape; using the formula

Circle Theorem: Students should be able to

- Prove and apply circle theorems, concerning angles, radii, tangent, chords and use them to prove related results

Constructions and Loci: Students should be able to

- Use a standard compass and ruler constructions to draw a perpendicular bisector of a line segments
- Construct triangles
- Use the standard ruler and compass constructions
- Use a standard compass and ruler constructions to draw a perpendicular bisector of a line segment
- Construct a perpendicular to a given line from/at a given point
- Bisect a given angle
- Use pencil, pair of compasses and a ruler to construct an angle of 60 degrees
- use this to construct given shapes
- Solve loci problems
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- constructing a perpendicular to a given line from/at a given point
- bisecting a given angle
- use this to construct given shapes and solve loci problems
- To know that perpendicular line is a shortest distance

Pythagoras Theorem: Student should be able to

- Use Pythagoras' theorem to find the length of the hypotenuse in a right-angled triangle
- Use Pythagoras' theorem to find the length of the shorter side in a right-angled triangle
- Use Pythagoras' theorem to find a missing side in a right –angled triangle or the length of a line segment on a coordinate grid.

Trigonometry: Students should be able to

- Use trigonometric ratios to find missing lengths and angles in triangles.
- Use the trigonometric ratios and apply them to find angles and lengths in right –angled triangles:
- Find the exact values of Sin Θ and Cos Θ for key angles.
- Use the Sine and Cosine rules to find missing lengths and angles
- to apply pythagoras theorem, trigonometry ratios, sine and cosine rule to find angles and lengths in 2D and 3D
- Use the Sine formula for the area of a triangle

Vectors: Students will be able to

- Write column vectors and draw vector diagrams
- Apply addition and subtraction of vectors
- Multiply vectors by a scalar quantity
- To draw vectors and Represent them as column vectors (Calculate with vectors and use them in geometric proofs)

Term 2

Graphs: Students should be able to...
- Draw graphs to identify and interpret roots, intercepts and turning points of quadratic functions
- Solve a quadratic equation by finding approximate solutions using a graph
- Recognise, sketch and interpret graphs of linear, quadratic, cubic and reciprocal functions.
- Plot and interpret real life graphs

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Higher Graphs: Students should be able to...
- Recognise and draw graphs of cubic and reciprocal functions
- Recognise and draw graphs of exponential functions
- Recognise and sketch the graphs of trigonometric functions
- Recognise and sketch translations and reflections of graphs
- Draw and interpret graphs in real-life problems

Higher Graphs: Students should be able to…
- Approximate the gradient of a curve at a given point and the area under the graph.
- Interpret these values in real-life problems including kinematic graphs
- Recognise and use simple equations of circles and find the tangent to a circle at a point.

Sequences: Students should be able to…
- Generate terms of a sequence from both a term-to-term and a position-to-term
- Write a formula for the nth term of a linear sequence
- Recognise special sequences and use them to solve problems

Higher Sequences: Students should be able to…
- Recognise a linear sequence; generate a sequence using a term-to-term or position-to-term rule
- Recognise a linear sequence and find a formula for its nth term
- Recognise quadratic sequences; generate/describe a sequence using a term-to-term or position-to-term rule
- Recognise a quadratic sequence and find a formula for its nth term
- Recognise and use special sequences

Units and Proportionality: Students should be able to…
- Calculate with standard and compound units
- Compare lengths, areas and volumes of similar shapes
- Solve direct and inverse proportion problems
- Interpret the gradient of a straight line graph as a rate of change
- Interpret graphs that illustrate direct and inverse proportion
- Set up, solve and interpret growth and decay problems

Higher Units and Proportionality: Students should be able to…
- Use compound measures
- Convert between standard units of measure and compound units
- Compare lengths, areas and volumes of similar shapes
- Solve direct and inverse proportion problems
- Describe direct and inverse proportion relationships using an equation
- Recognise graphs showing direct and inverse proportions and interpret the gradient of a straight line graph
- Find the instantaneous and average rate of change from a graph
- Solve repeated proportional change problems

Term 3 - Term 4

Mock Exams in January and March.
Parent consultations in February to discuss their GCSE tier.
Bespoke learning plans for each student
Revision techniques

Exam practise and 'walking talking' mocks

Term 5

National Examinations