



## Whitworth Community High School Mathematics Department

Teacher in Charge/Faculty Leader: Ms Y Jan

Year Group 9/10

**Organisation of the classes: Students in year 9 and 10 receive 5 hours of mathematics teaching a week.**

Students are streamed according to their ability in mathematics based on their KS scores as well as baseline assessments at the start of the year. Teacher assessments throughout the year further contributes to ensuring that our students are in the appropriate group based on their mathematics ability.

### Key Concepts

Year 9 and 10 are allocated 5 hours of mathematics a week enabling the new GCSE content to be fully mastered to ensure our students make maximum progress and exceed national expectations.

There has been changes with new content being added to both the foundation and higher GCSE course which includes;

#### Higher

Expanding products of two or more binomials

Functions

Completing the square and turning points

Area under a curve

Iteration

Quadratic inequalities

Geometric progression

Venn diagrams

Gradient of curves

#### Foundation

Quadratic functions, intercepts and roots

Special sequences

Interpreting gradients of straight lines

Venn diagrams

### What skills do I use in this subject?

Using and applying formulae

Learning Formulae

Identifying misconceptions

Evaluating

Reasoning

Problem Solving

Justifying and explaining

Generalizing

Construction - using a protractor and compass

<p><b>What will you be learning?</b></p> <p>Number Algebra Geometry Fractions, decimals and percentages Equations, inequalities and sequences Transformations Trigonometry Multiplicative reasoning Quadratics equations and graphs Ratio and proportion Construction, loci and bearings Circle theorem Statistics Congruence, similarity and vectors</p>	<p><b>How will you be learning?</b></p> <p>Students will concentrate on the three elements of fluency, reasoning and problem solving. The curriculum is child centred with a focus on mastery and depth and for students to develop confidence and resilience in the subject.</p> <p>Topics will be inter-linked to ensure students have fully mastered the topic from numerous angles.</p>
<p><b>How will your learning be assessed?</b></p> <p>Students are assessed regularly with low stakes fortnightly fluency checks in addition to end of term reasoning and problem solving assessments.</p> <p><b>End of Year Summative Examinations</b> Paper 1 (1 hour 30 minutes) - Non Calculator Paper 2 (1 hour 30 minutes)- Calculator</p>	<p><b>Home Learning</b></p> <p>Home Learning is primarily set on Hegartymaths.com though class teachers may also set additional written home learning to reinforce, consolidate and review knowledge, skills and understanding. It is a requirement that the hegary maths video is watched and students make notes on what they have watched as well as making notes in the process before attempting the quiz questions. This quiz is automatically marked and a percentage is provided. Students are able to feedback to the class teacher should they require additional support..</p> <p>Revision for upcoming assessments by searching the topic on hegary maths and watching the video making notes and going through the worked examples before attempting the quiz questions.</p>
<p><b>Equipment needed?</b></p> <p>Casio Calculator Geometry Set including protractor and compass</p>	<p><b>How can your parents support your learning?</b></p> <p>We hope parents can support and encourage students to revise and revisit topics regularly and become independent learners developing resilience to answer some complex questions involving reasoning and problem solving.</p> <p>We further encourage parents to regularly test students to ensure the formulae are learnt so that students have full access to the questions presented.</p> <p>In preparation th the GCSE examinations we encourage students to be doing 1 hour of mathematics each evening to ensure they achieve their personal best outcomes.</p>

**SMSC Links – Focus on Aspirations**

Pi Day

The history of mathematics in Islam and across the world relating to RS

Famous mathematicians - Euler, Pythagoras

**What extra-curricular activities or enrichment opportunities are available?**

UKMT Mathematics Challenge

Drop in clinic a every lunch time in L1 (Chromebooks available)