

**Subject:** Maths      **Year** 11      **Ability** Foundation

Half Term 2 / weeks	Week 1-2	Week 3-4	Week 5-6	
<b>Topic</b>	Unit 35 - Trigonometry	Unit 36 – Sets and Venn Diagrams	Unit 37 – Simultaneous Equations	Reteach and Retention
Topic overview	To recall and use Pythagoras’ theorem in a range of contexts for different styles of questions before extending these questions to include trig.	To recall probability skills in the context of Venn diagrams both requiring population and provided.	Use skills to solve linear simultaneous including worded situations.	Focus on the process of reteach and retention, knitting together the learning in reaction to the assessments completed
<b>Pupils will learn...</b>				
<b>Components</b>	<ul style="list-style-type: none"> <li>Work out probabilities from Venn diagrams.</li> <li>To find missing angles in right-angled triangles.</li> <li>To use Pythagoras and trigonometry to solve problems.</li> <li>To know exact values of sin, cos and tan for 0, 30, 45 and 60 degrees.</li> </ul>	<ul style="list-style-type: none"> <li>To understand the definition of a set and use set notation.</li> <li>To sort and place sets of objects into Venn diagrams.</li> <li>Work out probabilities from Venn diagrams.</li> </ul>	<ul style="list-style-type: none"> <li>To solve simple linear equations.</li> <li>To solve equations with an unknown on each side.</li> <li>To solve linear equations that involve brackets and fractions.</li> <li>To solve simultaneous equations using elimination and substitution.</li> <li>To form and solve simultaneous equations from worded problems.</li> </ul>	Staff complete a program of adaptive reteaching on specific topics based on the individual/class needs within their groups. Regular assessments are used to identify gaps in learning. Any gaps found are then addressed in lessons to help support learning and retention. Clear areas for improvement are monitored by individual staff and at a departmental level.
<b>What pupils should already know (prior learning components)</b>	Students should be able to rearrange simple formulae and equations, as preparation for rearranging trigonometric formulae. Students should understand when to leave an answer in surd form. Students can plot coordinates in all four quadrants and draw axes.	Students will have an appreciation of place value, and recognise even and odd numbers. Students should have knowledge of integer complements to 10 and to 100. Students should have knowledge of strategies for multiplying and dividing whole numbers by 2, 4, 5, and 10. Students should be able to read and write decimals in figures and words. Students should know how to add and multiply fractions and decimals. Students should have experience of expressing one number as a fraction of another number.	Students should be able to draw linear graphs. Students should be able to substitute into and solve equations. Students should have experience of using formulae. Students should recall and use the hierarchy of operations and use of inequality symbols.	All the half term content will have been covered by this point. Staff will use departmental tracking documents to analyse the gaps in learning from the most recent assessments and all previous assessments. The ability to structure and breakdown a problem-solving question as exemplified in the TFI questions throughout the course.
<b>Transferrable knowledge (skills)</b>	This topic will use students’ knowledge and understanding of squaring and use of formulae and then extend this to increasing difficult problems requiring students to visualise and assess the validity of answers.	The use of Venn will itself be used to help student visualise problems to allow sorting of information. The probability skills needed here will also reinforce probability tree diagram style questions and simpler questions requiring notation.	Students continue to build on the algebraic skills which can be used in various contexts. The skill to be able to change worded questions into mathematical ones in also a useful life skill.	This activity should serve to highlight and address areas of weakness in teaching and learning or retention. This early intervention to understand specific key areas for improvement or development. This should help to build confidence and improve students’ ability to answer these and directly sequential problems.

<b>Key vocabulary pupil will know and learn</b>	Trigonometry, Sine, Cosine, Tangent, Acute, Lengths, Longest, Opposite, Right angle, Elevation, Depression, Pythagoras, Bearings, Exact values,	Notation, Union, Intersection, Element, Universal, Empty set, Venn diagrams, Abstract,	Solving, Equations, Linear, Coefficient, Negative, Solutions, Substitution,	
<b>Assessment activities</b>	Homework unit 35 - Trigonometry	Homework unit 36 – Sets and Venn Diagrams	Homework unit 37 – Simultaneous Equations	AFL and adaptive teaching will continue to support staff to assess the address areas.
<b>Resources available</b>	MathsWatch clip: 168, 124, 150, 173	MathsWatch clip: 127, 185	MathsWatch clip: 100, 135, 162	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes <b>Why this topic is important...</b>	The real-world use of Pythagoras and trig is a significant skill for numerous jobs such as construction and design. This topic looks to build knowledge of the connection of theory and practice in the real world. Students need to understand the different styles of questions that can be asked as well as and understanding of the relevance of that answer.	The unit starts with students asked to sort information into groups that have things in common to create Venn diagrams. This is then built upon by introducing unit specific notation and the meanings these hold. The unit finishes with students required to answer probability questions including conditional problems	Students move through a series of graded questions from equivalent unknowns +/- and then to non-unit coefficient questions that require students to manipulate the given equations before undertaking the question. The unit ends with students asked to put worded situations into context of a simultaneous equation	This is an important point in the curriculum plan that enables individual teachers to review the gaps in learning for the classes they teach. The half-termly assessments are used to track students' progress and enable teachers to react quickly to any gaps in knowledge and prepare students for the next assessment. The feedback and modelling of the exam answers enables students to pick up exam techniques and the ability to communicate effectively.