

Subject: Maths **Year** 11 **Ability** Higher

Half Term 2 / weeks	Week 1	Week 2-3	Week 4-6	
Topic	Unit 35 - Trig Graphs	Unit 36 - Sets and Venn Diagrams	Unit 37 – Equations of Circles	Reteach and Retention
Topic overview	To recall and apply trig skills graphically. Using these to find and ratify unknown values.	To recall probability skills in the context of Venn diagrams both requiring population and provided.	To recall and apply straight line skills including gradients, applying them to circle contexts including intersections	Focus on the process of reteach and retention, knitting together the learning in reaction to the assessments completed
Pupils will learn...				
Components	<ul style="list-style-type: none"> To use special triangles to find exact trig values To use exact values in calculations To plot and recognise trig graphs To find angles using trig graphs 	<ul style="list-style-type: none"> To understand the definition of a set and use set notation. To sort and place sets of objects into Venn diagrams. Work out probabilities from Venn diagrams. 	<ul style="list-style-type: none"> To know the general form of equation of a circle To create and interpret the equation of a circle To find the equation of a tangent to a circle at a specific point To use solve simultaneous equations including circles To use points of intersection to find the length of a chord where a line intersects a circle 	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.
What pupils should already know (prior learning components)	Students should be able to use axes and coordinates to specify points in all four quadrants. Students should be able to recall and apply Pythagoras’ Theorem and trigonometric ratios. Students should be able to substitute into formulae.	Students should understand that a probability is a number between 0 and 1, and distinguish between events which are impossible, unlikely, even chance, likely, and certain to occur. Students should be able to mark events and/or probabilities on a probability scale of 0 to 1. 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 have practical experience of drawing circles with compasses. Students should recall the words, centre, radius, diameter and circumference. Students should recall the relationship of the gradient between two perpendicular lines. Students should be able to find the equation of the straight line, given a gradient and a coordinate.	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.
Transferrable knowledge (skills)	The topic will build pupils’ confidence with trig and transformations of graphs. These skills will be used again when asked to complete more complicated questions that require alternative trig values for angles and function notation and transformation of graphs (often trig). This knowledge is reused frequently at KS5.	The use of Venn will itself be used to help student visualise problems to allow sorting of information and then used in KS5 stats. The probability skills needed here will also reinforce probability tree diagram style questions and simpler questions requiring notation.	The topic will build pupils’ confidence with straight lines. It also uses and support circle knowledge and plotting of quadratics. This knowledge is reused frequently at KS5.	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.

Key vocabulary pupil will know and learn	Axes, coordinates, sine, cosine, tan, angle, graph, transformations, side, angle, inverse, square root	Probability, mutually exclusive, conditional, tree diagrams, sample space, outcomes, theoretical, relative frequency, Venn diagram, fairness, experimental	Radius, centre, tangent, circumference, diameter, gradient, perpendicular, reciprocal, coordinate, equation, substitution	
Assessment activities	Homework Unit 35 – Trig Graphs	Homework Unit 36 – Sets and Venn Diagrams	Homework Unit 37 – Equations of Circles	AFL and adaptive teaching will continue to support staff to assess the address areas.
Resources available	Mathswatch Clips 168, 173	Mathswatch Clips 127, 185	Mathswatch Clips 197, 208, 211	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes Why this topic is important...	The unit starts with the generation of the trig graphs and how these can be used to predict other trig values due the cyclic nature of the function. The unit builds towards students possibly looking at CAST diagrams often used in KS5. A recall of transformation of graphs should also be looked at this point as these units often overlap.	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	The unit requires students to understand all elements of straight lines especially gradients. The unit uses these in the context of a circle and how these can be applied to a circle. Intersection points in and out of the circle could be used to answer complex questions including regions and mapped areas.	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.