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Curriculum Planning Template

Subject: Maths Year 10 Ability Foundation

Half Term 3 / weeks	**Week 1-2**	**Week 3-4**	**Week 5-6**	
Topic	Unit 19 - Expanding and factorising	Unit 20 - Bearings and constructions	Unit 21 - Quadratics	Reteach and Retention
Topic overview **Pupils will learn…**	To recall and use basic algebra skills including expanding and factorising with a focus on problem solving.	To understand how mathematical constructions are used to improve accuracy and how these skills can be used in modelling of the real world.	To recall linear equation work and apply this to a quadratic setting understanding the link between equations and graphs.	Focus on the process of reteach and retention, knitting together the learning in reaction to the assessments completed
Components	• To expand single brackets. • To expand more than one bracket and simplify. • To expand double brackets. • To factorise into one bracket. • To solve area and perimeter problems involving brackets	• To draw and measure bearings. • To construct triangles using a protractor and compass. • To construct a perpendicular bisector. • To construct an angle bisector. • To construct given angles. • To construct a regular hexagon inside a circle. • To solve problems involving loci.	• To factorise quadratics. • To factorise and recognise the difference of two squares. • To solve quadratics by factorising. • To sketch quadratics. • To plot quadratics using a table of values.	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)	Pupils will need good algebraic manipulation skills i.e expanding a single bracket, simplifying like terms, factorising into a single bracket. Students will also need good knowledge of factors and division	Pupils will need a strong understanding of scale and be able to recall basic angle facts for bearing. Pupils should be confident at using a protractor, but will need time using a learning about the line drawn with a compass.	Students will need to recall factorising into a single bracket, factors, division, positive and negative number calculations and be able to substitute values into formulas and equations. Students will need to understand roots and turning point, and how we know this from the equation of the curve	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 factorising and general handling of algebra is going to be key in the quadratics unit later in the HT. this provides students with important recall of these skills that need to be built on and developed in a problem-solving context.	Real life application of bearings and exact drawings is a useful life skill in itself but this unit will be frequently used in other angle property questions. In harder angle questions bearing is often added to make the question more challenging with a focus on three figure bearings.	Quadratic equations, both solving and drawing will be one of the harder topics that are delivered to foundation students. Students especially at the higher end of the tier should be pressed on these skills to ensure that any later movement to the higher tier is made accessible.	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	Expand, Double bracket, Simplify, collect like terms, Factorise, Highest common factor,	Bearings, Scale drawings, Draw, Measure, Three-figure, Construct, Triangles, Protractor, Compass, Perpendicular, Line segment, Angles, Hexagon, Loci, Locus, Equidistant,	Factorise expressions, Factorise quadratics, Coefficients, Difference of two squares, Equations, Intersection, Roots, Plot, Curve, Approximate,	
Assessment activities	Year 10 Test 9 Homework 19 Expanding and factorising	Year 10 Test 9 Homework 20 Bearings and constructions	Year 10 Test 9 Homework 21 Quadratics	AFL and adaptive teaching will continue to support staff to assess the address areas.

Resources available	Maths Watch clips 93, 94, 134	Maths Watch clips 47, 124, 145, 146, 147, 165	Maths Watch clips 157	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 topic builds on existing algebra skills and focuses first on one bracket. The skills of expanding and factorising should be worked on including negative numbers before moving to duel and then double brackets simplifying where needed. These skills should then be embedded using in context area/volume questions recalling that knowledge and allowing students to be ready for solving quadratics.	The unit starts with angles at a point, on a line and between parallel lines being used in bearings before adding the element of scale drawings. Students the progress to constructions and how this can be used in diagrams to identify regions applying mathematic skills to answer problems.	Quadratics draws on numerous earlier skills and knowledge that have been covered and joins them together. This is the first pure maths topic that students meet that starts to join together these different skills allowing for a deeper understanding of "why" these earlier topics were used. The unit will finish requiring students to draw/sketch a graph using the algebra to fill in more information.	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.