Salford City Academy
The best in everyone™
Part of United Learning

Maths
Y10 Higher

Overview

Students study topics in each of the five key strands in mathematics: Number, Algebra, Geometry, Ratio & Proportion and Statistics & Probability. Each strand builds on their prior learning from Years 7, 8, and 9.

We focus on developing knowledge and skills in each of the five strands which students will then build on to solve problems and reason mathematically.

Autumn

Unit H1: Forming and Solving Equations – forming expressions from words, forming and solving equations from worded problems, forming and solving equations involving shape and angles

Unit H2: Rearranging – one step rearranging, multi step rearranging, rearranging with fractions, with negative unknowns and with unknowns on both sides

Unit H3: Quadratic Sequences – quadratic nth term, generating quadratic sequences

Unit H4: Recurring Decimals – recurring decimals to fractions, calculations with recurring decimals

Unit H5: Compound Measures – calculating speed distance and time, calculating average speed, distance time graphs, calculating density mass and volume, calculating force pressure and area

Unit H6: Growth and decay – simple interest, compound interest, comparing compound and simple interest, depreciation, exponential growth and decay

Unit H7: Coordinate Geometry – equation of a straight line, rearranging y=mx+c, equation of a line, parallel lines, perpendicular lines

Unit H8: Plotting Graphs – plotting straight line graphs, plotting quadratic graphs, properties of quadratic graphs, cubic and reciprocal graphs

Unit H9: Simultaneous Equations 1 – solving linear simultaneous equations with elimination and substitution method, solving linear simultaneous equations graphically

Unit H10: Quadratics 2 – solving quadratics with a coefficient by factorising, using the quadratic formula or completing the square

Unit H11*: Probability Trees - drawing probability trees, probability trees with and without replacement

Assessment:

Students will be informally assessed every lesson using questioning, mini whiteboards and marking of independent work.

There will be an End of Topic Review at the end of each unit.

Spring

Unit H12: Congruence and Similar Shapes 2 – congruent triangles, congruency proof, similar triangles, area scale factor, volume scale factor

Unit H13: Volume and Surface Area 2 – volume and surface area of cylinders, pyramids, cones, and spheres

Unit H14: Right Angle Trigonometry – finding missing side lengths, finding missing angles, problem solving with trigonometry

Unit H15: Transformations 2 – combined transformations, positive and negative enlargement

Unit H16: Proportion Equations - direct linear and non-linear proportion equations, inverse linear and non-linear equations.

Assessment:

Mid-Year assessments.

Students will be informally assessed every lesson using questioning, mini whiteboards and marking of independent work.

There will be an End of Topic Review at the end of each unit.

Summer

Unit H17: Ratio 2 – combined ratio, combined ratio on a line, splitting in a ratio

Unit H18: Surds – simplifying, multiplying and dividing surds, adding and subtracting surds, expanding and simplifying with surds, rationalising surds

Unit H19: Representing Data 3 – frequency polygons, drawing scatter graphs, interpreting scatter graphs, time series graphs

Unit H20: Product Rule - calculating the number of possible combinations

Unit H21: Upper and Lower Bounds – calculations with bounds, suitable degree of accuracy

Unit H22: Bearings – measuring, reading and drawing bearings, bearings with Pythagoras and trigonometry

Assessment:

Students will be informally assessed every lesson using questioning, mini whiteboards and marking of independent work.

There will be an End of Topic Review at the end of each unit.

End of Year assessments will take place in June.

Useful resources for supporting your child at home:

Videos on Sparx (www.sparxmaths.uk)

Videos on Corbett Maths (Videos and Worksheets – Corbettmaths)

CGP GCSE Maths Edexcel Revision Guide (link here)

REVISE Pearson Edexcel GCSE (9-1) Mathematics (link here)

Homework:

Homework will be set on Sparx (www.sparxmaths.uk).

Homework will be set once a week and students are expected to complete 100% of their homework each week. Homework is bespoke for all students depending on their performance in previous weeks.