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| **Term** | **INTENT** | **IMPLEMENTATION** | **IMPACT** |
| **Substantive Knowledge**  This is the specific, factual content for the topic, which should be connected into a careful sequence of learning. | **Disciplinary Knowledge (Skills)**  This is the action taken within a particular topic in order to gain substantive knowledge. | **Assessment opportunities**  What assessments will be used to measure student progress?  Evidence of how well students have learned the intended content. |
| **Autumn Term**  **1A**  **Year 7** | **Intent** | Chapter 1: Indices and Standard Form  • State and apply the laws of indices  • Simplify an expression involving indices  • State and apply the definitions of zero and negative indices  • Express and compare numbers in standard form  • Calculate using numbers in standard form  Chapter 2: Proportion  • Understand the concepts of direct proportion and inverse proportion  • Determine whether two quantities are in direct proportion or inverse proportion from a graph, a table or an equation connecting the two quantities  • Solve practical problems involving direct proportion and inverse proportion  Chapter 3: Linear Equations in Two Variables  • Rearrange a formula to change the subject  • Understand the properties of a linear equation in two variables  • Draw the graph of a linear equation in two variables  • Understand the concept of simultaneous equations and their solutions  • Solve simultaneous linear equations in two variables using the graphical method, the substitution method, and the elimination method  • Recognise the approximate nature of the graphical method  • Apply simultaneous linear equations in two variables to solve problems | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   1.1: 1033  1.2: 1951  1.3: 1051, 1049, 1050  2.1: 1948  2.2: 1949, 1048  3.1: 1170, 1171  3.2: 1396  3.3: 1319  3.4: n/a  3.5: 1176, 1175, 1174  3.6: n/a |
| Chapter 1: Indices and Standard Form   * 1.1 Positive Indices and Laws of Indices * 1.2 Zero and Negative Indices * 1.3 Standard Form   Chapter 2: Proportion   * 2.1 Direct Proportion * 2.2 Inverse Proportion   Chapter 3: Linear Equations in Two Variables   * 3.1 Changing the Subject of a Formula * 3.2 Linear Equations in Two Variables * 3.3 Solving Simultaneous Linear Equations in Two Variables by the Graphical Method * 3.4 Solving Simultaneous Linear Equations in Two Variables by the Substitution Method * 3.5 Solving Simultaneous Linear Equations in Two Variables by the Elimination Method * 3.6 Solving Problems Using Simultaneous Equations |
| **Autumn Term**  **1B**  **Year 7** | **Intent**  Why is this taught now? | Chapter 4: Quadratic Expressions  • Manipulate quadratic expressions  • Expand the product of two linear algebraic expressions  • Factorise quadratic expressions of the form ax2 + bx + c using the multiplication frame  • Expand and factorise algebraic expressions using special products  Chapter 5: Non-Linear Graphs  • Interpret and draw distance–time graphs, velocity–time graphs and other graphs that show rates of change  • Use graphs for rates of change to solve problems  • Interpret and draw the graph of a quadratic function  y = ax2 + bx + c  • State the properties of quadratic graphs  • Interpret and draw exponential, reciprocal and piece-wise graphs  • State the properties of exponential and reciprocal graphs | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   4.1: n/a  4.2: 1150  4.3: 1157, 1156  4.4: 1150  4.5: 1157  5.1: 1322  5.2: 1168, 1959  5.3: n/a |
| Chapter 4: Quadratic Expressions   * 4.1 Quadratic Expressions * 4.2 Expansion of the Product of Algebraic Expressions * 4.3 Factorisation of ax2 + bx + c * 4.4 Special Products of Algebraic Expressions * 4.5 Factorisation by Using Special Products of Algebraic Expressions   Chapter 5: Non-Linear Graphs   * 5.1 Graphs for Constant Rates of Change * 5.2 Quadratic Graphs * 5.3 Exponential, Reciprocal and Piece-wise Graphs |
| **Spring Term**  **2A**  **Year 7** | **Intent**  Why is this taught now? | Chapter 6: Geometric Construction & Loci  • Construct perpendicular bisectors and angle bisectors using a pair of compasses and a ruler  • Recognise the properties of perpendicular bisectors and angle bisectors  • Construct a perpendicular to a line from a point or at a given point using a pair of compasses and a ruler  • Construct triangles and quadrilaterals using a pair of compasses, a ruler and a protractor  • Construct and describe loci for the paths of points on a plane  Chapter 7: Pythagoras’ Theorem  • State Pythagoras' Theorem  • Apply Pythagoras' Theorem to solve problems involving right-angled triangles  • Apply the converse of Pythagoras's Theorem to determine whether a triangle has a right angle  • Recognise and use the perpendicular distance from a point to a line as the shortest distance to the line | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   6.1: 1089  6.2: 1090, 1089  6.3: 1147  7.1: 1112  7.2: 1112  7.3: n/a |
| Chapter 6: Geometric Construction & Loci   * 6.1 Perpendicular Bisectors, Perpendicular Lines and Angle Bisectors * 6.2 Construction of Triangles and Quadrilaterals * 6.3 Loci   Chapter 7: Pythagoras’ Theorem   * 7.1 Pythagoras' Theorem * 7.2 Applying Pythagoras' Theorem to Solve Problems * 7.3 Converse of Pythagoras' Theorem |
| **Spring Term**  **2B**  **Year 7** | **Intent**  Why is this taught now? | Chapter 8: Congruence, Similarity and Enlargement  • State the conditions for two triangles to be congruent  • Identify congruent triangles  • Solve problems involving congruence  • Understand the idea of similarity  • State the properties of similar polygons  • Solve problems involving similarity  • Enlarge a plane figure by a scale factor  • Interpret scale drawings  Chapter 9: Trigonometry and Bearings  • State the definitions of trigonometric ratios (sine, cosine and tangent) of acute angles  • Use trigonometric ratios to find unknown sides and angles in right-angled triangles  • Apply the trigonometric ratios to solve problems  • Measure and calculate bearings  • Solve problems involving bearings | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   8.1: 1148  8.2: 1119  8.3: 1099  8.4: 1117  9.1: 1133  9.2: 1131  9.3: 1086 |
| Chapter 8: Congruence, Similarity and Enlargement   * 8.1 Congruent Triangles * 8.2 Similarity * 8.3 Enlargement of a Plane Figure * 8.4 Scale Drawing   Chapter 9: Trigonometry and Bearings   * 9.1 Finding Unknown Sides in a Right-angled Triangle * 9.2 Finding Unknown Angles in a Right-angled Triangle * 9.3 Bearings |
| **Summer Term**  **3A**  **Year 7** | **Intent**  Why is this taught now? | Chapter 10: Volume & Surface Area Of Pyramids & Cones  • Visualise the idea of surface areas of pyramids and cones using nets  • Find the surface areas and volumes of pyramids and cones  • Find the surface areas and volumes of composite solids involving prisms, cylinders, pyramids, and cones  Chapter 11: Data Analysis  • Calculate the mean, median, mode and range of ungrouped data  • Calculate the mean of grouped data  • Make comparisons between sets of data | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   10.1: n/a  10.2: n/a  11.1: 1254, 1201  11.2: 1203  11.3: 1200, 1192 |
| Chapter 10: Volume & Surface Area Of Pyramids & Cones   * 10.1 Pyramids * 10.2 Cones   Chapter 11: Data Analysis   * 11.1 Mean and Range * 11.2 Median * 11.3 Mode |
| **Summer Term**  **3B**  **Year 7** | **Intent**  Why is this taught now? | Chapter 12: Probability  • Understand probability as a measure of chance  • Define the terms sample space, outcome and event  • List the sample space for a simple chance situation  • Find the probability of a single event  • Calculate the probability of a simple combined event using a sample space diagram  • Identify mutually exclusive events  • Understand and apply the addition of probabilities for two mutually exclusive events  Chapter 13: Sets and Venn Diagrams  • use set language and set notation to describe a set of objects, its elements, and its subsets  • draw Venn diagrams to represent sets and their elements  • define complement of a sets and represent it using a Venn diagram  • define union and intersection of two sets and represent them using a Venn diagram  • find probabilities using a Venn diagram | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   12.1: 1209, 1210  12.2: 1210  12.3: 1199  12.4: n/a  13.1: n/a  13.2: n/a  13.3: 1921, 1922, 1262 |
| Chapter 12: Probability   * 12.1 Introducing Probability * 12.2 Probability of Single Events * 12.3 Probabilities of Simple Combined Events * 12.4 Mutually Exclusive Events   Chapter 13: Sets and Venn Diagrams   * 13.1 Introducing Sets * 13.2 Venn Diagrams and Complement of A Set * 13.3 union and Intersection Of Sets |