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|  | **Half term points** |
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| **AUTUMN 1** | **AUTUMN 2** | **SPRING 1** | **SPRING 2** | **SUMMER 1** | **SUMMER 2** |
| N1.2 N1.7 Order of operations A2.3 Linear sequencesGM2.6 Types of quadrilateralGM2.7 Angles and parallel lines**Hot assessments per topic – 10 questions** | A1.5 Setting up and solving simple equationsA1.6 Using bracketsSP2.6 Scatter diagramsN4.4 Adding and subtracting fractionsN4.5 Working with mixed numbersN4.6 Dividing fractions**Hot assessments per topic – 10 questions** | A3.2 Plotting graphs of linear functionsN1.8 Multiplying decimalsN1.9 Dividing decimalsGM1.8 BearingsGM3.3 Circumference**Hot assessments per topic – 10 questions** | A1.7 Working with more complex equationsA1.8 Solving equations with bracketsSP4.3 Combined eventsN6.1 Understanding ratio notationN6.2 Sharing in a given ratioN6.3 Working with proportional quantitiesGM1.7 Metric-imperial conversions GM1.9 Scale drawingGM5.6 Enlargement**Hot assessments per topic – 10 questions** | N7.4 Index notationA2.4 Special sequencesGM6.3 Volume and surface area of cuboids**Hot assessments per topic – 10 questions** | A4.1 Trial and improvementS3.2 Designing a questionnaireS1.4 Using grouped frequency tablesS2.5 Displaying grouped dataN5.4 Applying percentage increases and decreases to amountsGM6.4 2-D representations of 3-D shapes**Hot assessments per topic – 10 questions** |
| **Key skills and knowledge assessed:** Key Skills:* Work out the nth term of an arithmetic sequence
* Continue special sequences
* Use facts for angles in parallel lines
* Apply the four operatins with negatives
* Apply BIDMAS

Key Knowledge:* Know how to use the rules for special sequences
* Know how to identify alternate and corresponding angles
* Know how to find the nth term rule of a linear sequence
* Know that vertically opposite angles are equal

  | **Key skills and knowledge assessed:**Key Skills* Calculate fractions of amounts
* Expand single brackets
* Solve linear equations
* Use simple formulae
* Convert between mixed number and improper fractions
* Plot and use scatter graphs identifying correlation
* Apply the four operations to fractions

Key knowledge * Know how to expand single brackets
* Know how to simplify expressions
* Know that correlation does not necessarily imply causality
* Know how to convert improper fractions and mixed numbers
 | **Key skills and knowledge assessed:**Key Skills: * Plot linear graphs
* Substitute numbers into formulae
* Bearings
* Angles in parallel lines
* Money questions with and without a calculator
* Understand and use place value to the four operations with decimals

Key knowledge: * Know how to plot linear graphs
* Know bearings are measured clockwise from the north line
* Know how to use place value with the four operations
* Know how to apply the four operations with decimals
 | Key skills and knowledge assessed:Key Skills: * Expanding double brackets
* Ratio when given a part or a total amount
* Set up and solve linear equations
* Solve more complex linear equations
* Plot enlargements
* Use a sample space diagram

Key knowledge: * Know how to expand and simplify
* Know how to use ratio to solve problems
* Know that finding the value for each single part in a ratio can lead to finding other parts
 | Key skills and knowledge assessed:Key Skills: * 2D representations of 3D shapes
* Calculate surface area and volume of cuboids
* Continue special sequences e.g. Fibonacci
* Calculate with roots and integer indices

Key knowledge: * Know the square numbers
* Know the cube numbers
* Know that the volume of a prism = cross section x depth
* Know how to name a 3D shape e.g. prism vs pyramid
* Know the meaning of faces, vertices, edges
 | Key skills and knowledge assessed:Key Skills: * 2D representations of 3D shapes
* Percentage of amounts
* Work out a percentage increase or decrease using a multiplier
* Find averages from grouped data
* Complete or construct a frequency table

Key knowledge: * Know how to find averages from grouped data
* Know how to identify the mode, median and range from a frequency table
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| **Meaningful homeworks:****Paper-based task on current and previous topics**Ratio, simplest form, fractions, linear sequenes, nth term, circumference, fractions of amounts, proportion, identifying quadrilaterals, rounding , metric to imperial conversions | **Meaningful homeworks:****Paper-based task on current and previous topics**Lowest Common Multiple, types of triangles , labelling conventions, BIDMAS, identifying 2D shapes, identifying quadrilateralsangles in parallel lines | **Meaningful homeworks:** **Paper-based task on current and previous topics**Algebraic geometric applicationsAreaSolving linear equationsConverting metric units of measureScatter graphsRatio Fractions word problems | **Meaningful homeworks:****Paper-based task on current and previous topics**Bearings enrichment task | **Meaningful homeworks:****Paper-based task on current and previous topics**Volume, Surface areaCubesCuboidsPowers and square roots, Uncommon sequences (finding terms)Bearings  | **Meaningful homeworks:****Paper-based task on current and previous topics**Questionnairestrial and improvementpercentage change VATReverse percentagesGrouped frequency & averagesFinding missing terms of uncommon sequencesFractions of amounts. |
| Key skills and knowledge assessed: Key Skills* Apply a formula to find the circumferenceSimplify ratio Find the ratio of an amount, 2 or 3 parts
* Properties of triangles and quadrilaterals

Key knowledge: * Know the process to share when given a ratioKnow that circumference = 2πr = πDKnow how to simplify ratio
* Know how to identify and use properties of triangles and quadrilaterals
 | Key skills and knowledge assessed: Key Skills:* Work out the nth term of an AP
* Use angle facts for angles on parallel lines.Understand and use geometric notation for labelling angles, lengths, equal lengths, and parallel lines
* Identify parallel lines
* Apply the order of operation on multistep problem to solve questions (including brackets)
* Apply the BIDMAS convention

Key knowledge: * Know how to find the nth term of a linear sequence e.g. 2n+3
* Know how to identify parallel and know exterior and perpendicular lines
* Know how to use geometric notation on parallel linesKnow how to identify alternate and corresponding angles Know how to solve complex order of operations
 | Key skills and knowledge assessed:**Key Skills:** * Factorise/ simplify harder expressions and solve more difficult equations
* Plot and use scatter graph
* Add, subtract, with fractions and mixed numbers
* Multiply and divide fractions with mixed numbers

Key knowledge:* Know the process to solve equations
* Know how to divide linear equations by common factors
* Know how to create, use and draw the line of best fit
* Know how to multiply and divide fractions
 | Key skills and knowledge assessed:Key Skills* Solve problems using bearings

Key Knowledge* know how to measure and write bearings
 | Key skills and knowledge assessed:Key Skills: * Solve problems using bearings
* Work out the surface area/ volume of cuboids in context
* Simplify algebraic expressions, including those involving powers and surds

Key knowledge: * know how to measure and write bearings
* know that volume of a prism = area of face x depth
* Know how to find the surface area of shapes
* Know how to collect like terms when working with expressions
 | Key skills and knowledge assessed:Key Skills* Use trial and improvement to estimate solutions of equations
* Calculate averages from a frequency table, including estimates from grouped data
* Work out a percentage inc/ dec and repeated change using an multiplier
* Calculate reverse percentages
* Add, subtract, multiply and divide with fractions and mixed numbers
* Work out the nth term of an AP

Key knowledge:* Know how + - / \* fractions
* Know how to find the nth term of a linear sequence e.g. 2n+3
* Know how to estimate solutions by using trial and improvement
* Know how to find averages from grouped data
* Know how to estimate solutions by using trial and improvement
* Know how to find averages from grouped data
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| **Meaningful homeworks:****Mathswatch****Topics from** **Summer 2 year 7** | **Meaningful homeworks:****Mathswatch****Topics from Autumn 1** | **Meaningful homeworks:****Mathswatch****Topics from Autumn 2** | **Meaningful homeworks:****Mathswatch****Topics from Spring 1** | **Meaningful homeworks:****Mathswatch****Topics from Spring 2** | **Meaningful homeworks:****Mathswatch****Topics from Summer 1** |