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|  | **Half term points** |
| **8 HF** |
| **AUTUMN 1** | **AUTUMN 2** | **SPRING 1** | **SPRING 2** | **SUMMER 1** | **SUMMER 2** |
| N2.3 Multiplying and dividing by powers of 10N7.2 Factors, primes and powersN1.5 Adding and subtracting negative numbersN1.6 Multiplying and dividing negative numbersA2.2 Generating sequencesGM2.5 Angles in triangles and quadrilaterals**Hot assessment per topic – 10 questions**  | GM6.1 Properties of 3-D shapes A1.3 Combining variablesSP2.2 Stem and leaf diagramsSP1.1 Mode, median and rangeSP1.2 Using mean, median, mode and rangeSP3.1 Collecting dataN4.3 Multiplying fractionsN7.3 Divisibility testsGM4.2 Constructions with a ruler and protractorGM2.4 Rotational symmetryGM2.6 Types of quadrilateralGM6.1 Properties of 3-D shapes**Hot assessment per topic – 10 questions**  | GM1.5 Interpreting scalesA1.4 Working with formulaeA3.1 Real life graphsN1.7 Order of operations BIDMASGM1.5 Interpreting scalesGM1.8 Bearings**Hot assessment per topic – 10 questions**  | A1.5 Setting up and solving simple equationsA1.6 Using bracketsSP4.1 Introduction to ProbabilitySP4.2 Single event probabilityN2.5 Using the number system effectivelyN6.1 Understanding ratio notationGM5.5 Rotation**Hot assessment per topic – 10 questions**  | N7.4 Index notationA2.3 Linear sequences GM3.2 Finding area and perimeterGM6.2 Understanding nets**Hot assessment per topic – 10 questions**  | SP3.1 Collecting data SP1.3 Using frequency tablesN3.4 Rounding decimals N5.3 Converting between fractions decimals and percentagesGM6.3 Volume and surface area of cuboidsA4.1 Trial and improvement**Hot assessment per topic – 10 questions**  |
| Key skills and knowledge assessed: (size 6.5)Key Skills:* Convert between mixed numbers and improper fractions, fractions, decimals and percentages
* Calculate fractions/decimals/percentages of amounts.
* Write a quantity as a fraction or percentage of another
* List probability outcomes
* state the probability of an event

Key knowledge: * Know how to convert between fractions – decimals – percentages
* Convert between mixed numbers and improper fractions
* Know percentage and decimal equivalents for fractions with a denominator of 2,3,4,5,8 and 10
* Know probability is out of one
* To generate sequences and identify term to
* To use a probability scale
 | Key skills and knowledge assessed:Key Skills:* Identify multiples, factors and powers
* Problem solve using factors/multiples
* Round numbers to a given DP
* Transformations, describe and plot translations
* properties of triangles and quadrilaterals (multiple)

Key Knowledge* Know how to round to decimal places know how to round to 1 dp
* Know the process of multiplying and dividing by powers of ten
* Know how to use coordinates to solve problems
* Know the first 6 cube numbers and corresponding roots
* Know the first 12 triangular numbers
* Know the first 15 square numbers and corresponding root
* Know the names and properties of special triangles and quadrilaterals
 | Key skills and knowledge assessed:Key Skill:* Problem solve using factors/multiples and multiples
* Use positive integer powers and associated real roots
* Use coordinates for direction
* Problem solve using coordinates
* Work out the nth term of an AP
* Understand and use place value to add/subtract/multiply and divide integers (both positive and negative) and decimals, using mental and written methods
* Apply the four operations with negative numbers

Key knowledge: * Know a factor is a number that goes into a number
* Know the first 6 cube numbers and corresponding roots
* Know the first 12 triangular numbers
* Know the first 15 square numbers and corresponding roots
* Know how to use coordinates to solve problems
* Know how to find the nth term of a linear sequence e.g. 2n+3
* Know and use the number system to solve problems
* Know how to use negative numbers with the operations
 | Key skills and knowledge assessed:Key Skills:* Simplify and manipulate expressions by collecting like terms
* Create and use stem and leaf diagrams
* Find averages, mode, median, mean, range
* Simplify fractions
* Identify Equivalent fractions
* Simplify fractions and identify equivalent

Key Knowledge:* Know how to collect like terms together
* Know how to present data in a stem and leaf diagram
* Know how to calculate the range
* Know how to calculate the median
* Know how to calculate the median and mode/modal from data set
* Know how to cancel fractions
 | Key skills and knowledge assessed:Key Skill: * Set up, solve and interpret linear equations
* Factorise an expression by taking out common factors
* Factorise linear expressions
* State the probability of an event
* Complete and use probability tables and diagrams
* List probability outcomes
* Transformations, describe and plot rotations
* Find the ratio of an amount, 2 or 3 parts
* Convert between ratios and fractions.
* Simplify ratio

Key knowledge:* Know the process to balance equations to find a solution
* Know how to factorise linear expressions
* Know probability is out of one
* Know that probability is measured on a 0 -1 scale
* Know the difference between dependent and independent
* Know how to rotate shapes
* Know how to describe transformations
* Know the process to share when given a ratio
 | Key skills and knowledge assessed:Key Skills:* Calculate the area of shapes e.g. trapezium, rectangle, triangle, parallelogram
* Calculate the area of compound shapes
* Calculate the perimeter of shapes
* Work out the nth term of an AP
* Draw linear graphs –and real life situations

Key knowledge: * Know the formula for the area of a rectangle
* Know the formula for the area of a triangle
* Know the formula for the area of a parallelogram
* Know the formula for the area of a kite
* Know the formula for the area of a trapezium
* Know how to find the perimeter of different shapes
* Know how to find the nth term of a linear sequence e.g. 2n+3
* Know how to set up the axis for graphs and real life graphs, and how to present given data
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| **Meaningful homeworks: (size 6.5)****Paper based task on current and previous topics**Converting Fractions Decimals Percentages, Calculating Fractions Decimals Percentages of a given amount, Write number as percentage, fraction, decimal of another number, probability outcomes, give probability of event | **Meaningful homeworks:****Assessment**  **Paper based task on current and previous topics**Place value, translations, coordinates, identifying 2D shapes, factors, properties of triangles and quadrilaterals, number properties, perimeter, area, converting units of measure, ratio, picture sequences | **Meaningful homeworks:****Paper based task on current and previous topics**Rounding smaller numbers, rounding larger numbers, rounding decimals, decimal calculations, multiples and factors, laws of indices, square and cube numbers, sequences, area , perimeter, coordinates problem solving | **Meaningful homeworks:****Paper based task on current and previous topics**Mean, mode, median, range, reverse mean problems, problem solving with averages, Reading averages, find averages from a frequency table.  | **Meaningful homeworks:****Paper based task on current and previous topics**Area and perimeter, ratio, conversion graphs, fractions, collecting like terms, stem and leaf, averages, reverse averages | **Meaningful homeworks:****Paper based task on current and previous topics**Four operations on integers, shape areas, shape perimeters, square counting/drawing. Conversion graph/currency exchange , line graph, sequences |
| Key skills and knowledge assessed: (size 6.5)Key Skills:* Calculate the area of shapes e.g. trapezium, rectangle, triangle, parallelogram
* Calculate the area of compound shapes
* Calculate the perimeter of shapes

Key knowledge: * Know the formula for the area of a rectangle
* Know the formula for the area of a triangle
* Know the formula for the area of a parallelogram
* Know the formula for the area of a kite
* Know the formula for the area of a trapezium
* Know how to find the perimeter of different shapes
 | Key skills and knowledge assessed:Key Skills * Check calculations using approximation, estimation or inverse operations
* Transformations, describe and plot rotations,
* Transformations, describe and plot reflections

Key Knowledge:* Know how to reverse operations and approximation to check answers
* Know how to describe transformations
* To use a graph for converting e.g. money
* Know how to read information from graphs
 | Key skills and knowledge assessed:Key Skills * Forwards and backwards through zero)
* Create and use frequency table
* Use formulae expressed in words/ letters
* Calculate using the order of operations
* Read a given scale fully numbered
* Read a given scale with missing numbers,

Key knowledgeKnow how to identify formulae from given textKnow the order of operationsKnow a process to find the amount per division on a scale | Key skills and knowledge assessed:Key Skills:* Set up, solve and interpret linear equations
* Factorise an expression by taking out common factors
* Factorise linear expressions
* State the probability of an event
* Complete and use probability tables and diagrams
* List probability outcomes
* Transformations, describe and plot rotations
* Find the ratio of an amount, 2 or 3 parts
* Convert between ratios and fractions.
* Simplify ratio

Key knowledge:* Know the process to balance equations to find a solution
* Know how to factorise linear expressions
* Know probability is out of one
* Know that probability is measured on a 0 -1 scale
* Know the difference between dependent and independent
* Know how to rotate shapes
* Know how to describe transformations
* Know the process to share when given a ratio
 | Key skills and knowledge assessed:Skills:* Calculate the area of shapes e.g. trapezium, rectangle, triangle, parallelogram
* Calculate the area of compound shapes
* Calculate the perimeter of shapes
* Work out the nth term of an AP

Key knowledge: * Know the formula for the area of a rectangle
* Know the formula for the area of a triangle
* Know the formula for the area of a parallelogram
* Know the formula for the area of a kite
* Know the formula for the area of a trapezium
* Know how to find the perimeter of different shapes
 | Key skills and knowledge assessed:Key Skills* Calculated the volume of shapes
* Work out the surface area/ volume of cuboids in context
* Work out the surface area/ volume of cylinders, pyramids and prisms
* Simplify fractions
* Identify Equivalent fractions
* Convert between mixed numbers and improper fractions, fractions, decimals and percentages

Key knowledge: * know that the volume of a prism = area of cross section x length
* know that volume of a prism = area of face x depth
* Know how to find the surface area of shapes
* Know how to cancel fractions
* Know how to convert between mixed numbers and improper fractions
* Know how to convert between fractions – decimals – percentages
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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 |