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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 10  N7.2 Factors, primes and powers  N1.5 Adding and subtracting negative numbers  N1.6 Multiplying and dividing negative numbers  A2.2 Generating sequences  GM2.5 Angles in triangles and quadrilaterals  **Hot assessment per topic – 10 questions** | GM6.1 Properties of 3-D shapes  A1.3 Combining variables  SP2.2 Stem and leaf diagrams  SP1.1 Mode, median and range  SP1.2 Using mean, median, mode and range  SP3.1 Collecting data  N4.3 Multiplying fractions  N7.3 Divisibility tests  GM4.2 Constructions with a ruler and protractor  GM2.4 Rotational symmetry  GM2.6 Types of quadrilateral  GM6.1 Properties of 3-D shapes  **Hot assessment per topic – 10 questions** | GM1.5 Interpreting scales  A1.4 Working with formulae  A3.1 Real life graphs  N1.7 Order of operations BIDMAS  GM1.5 Interpreting scales  GM1.8 Bearings  **Hot assessment per topic – 10 questions** | A1.5 Setting up and solving simple equations  A1.6 Using brackets  SP4.1 Introduction to Probability  SP4.2 Single event probability  N2.5 Using the number system effectively  N6.1 Understanding ratio notation  GM5.5 Rotation  **Hot assessment per topic – 10 questions** | N7.4 Index notation  A2.3 Linear sequences  GM3.2 Finding area and perimeter  GM6.2 Understanding nets  **Hot assessment per topic – 10 questions** | SP3.1 Collecting data  SP1.3 Using frequency tables  N3.4 Rounding decimals  N5.3 Converting between fractions decimals and percentages  GM6.3 Volume and surface area of cuboids  A4.1 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 |
| **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 knowledge  Know how to identify formulae from given text  Know the order of operations  Know 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 |
| **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 |