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|  | **Half term points** |
| **8F** |
| **AUTUMN 1** | **AUTUMN 2** | **SPRING 1** | **SPRING 2** | **SUMMER 1** | **SUMMER 2** |
| N1.2 Multiplying whole numbersN2.2 Writing and ordering decimalsN2.3 Multiplying and dividing by powers of 10N3.2 Rounding larger numbersN7.2 Factors, primes and powersGM2.3 Angle facts**Hot assessments per topic – 10 questions** | A1.1 Making and using word formulaeSP2.3 Vertical line chartsSP2.4 Pie chartsN4.2 Finding equivalent fractionsN1.4 Dividing whole numbers N7.3 Divisibility testsGM6.1 Properties of 3-D shapes GM6.2 Understanding nets**Hot assessments per topic – 10 questions** | A1.2 Using lettersN1.3 Adding and subtracting decimalsGM1.5 Interpreting scalesN3.3 Rounding to the nearest integer**Hot assessments per topic – 10 questions** | A1.3 Combining variablesN4.2 Finding equivalent fractionsGM1.6 The metric systemN6.1 Understanding ratio notationGM5.2 Cartesian coordinates in four quadrantsGM5.3 Translation**Hot assessments per topic – 10 questions** | N7.2 Factors, primes and powersN7.4 Index notationN1.5 Adding and subtracting negative numbersA1.4 Working with formulaeA2.2 Generating sequencesGM3.1 Understanding areaGM6.1 Properties of 3-D shapes**Hot assessments per topic – 10 questions** | A1.5 Setting up and solving simple equationsSP1.1 Mode, median and rangeSP1.2 Using mean, median, mode and rangeSP2.2 Stem and leaf diagramsN5.1 Understanding and using percentagesN5.2 Calculating percentages of quantitiesGM2.4 Rotational symmetryGM6.2 Understanding nets**Hot assessments per topic – 10 questions** |
| **Key skills and knowledge assessed:** Key Skills:* Multiplying and dividing by powers of ten
* Rounding
* Solve problems using factors/multiples/primes/HCF/LCM.
* Identify multiples, factors and powers
* Use positive integer powers and associated real roots
* Identify multiples, factors and powers
* Understand and use place value to add/subtract/multiply and divide integers (both positive and negative) a using mental and written methods
* Problem solve problems using symmetry/angle
* circumference of circles
* Simplify ratio
* Multiplying and dividing by powers of ten

Knowledge* Know how to multiply and divide numbers
* Know a factor is a number that goes into a number
* Know how to use powers and roots
* 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 roots
* Know how to multiply and divide using negatives
* Know how to identify and use lines of symmetry
* Know how to simplify ratio
* Know the process of multiplying and dividing by powers of ten
 | **Key skills and knowledge assessed:**Key Skills:* Substitute numbers into formulae
* Change the subject
* Simplify fractions
* Identify Equivalent fractions
* Identify 3d shapes by their properties
* Interpret and construct pie charts
* Simplify fractions
* Identify Equivalent fractions
* Solve problems using factors/multiples/primes
* Identify multiples, factors and powers
* Use positive integer powers and associated real roots
* Identify multiples, factors and powers
* Understand and use place value to add/subtract/multiply and divide integers (both positive and negative) a using mental and written methods

Knowledge* Know how to substitute letters for numbers to find answers
* Know how to cancel fractions
* Know how to name a 3D shape from the base as a prism or pyramid
* Know how to create and use pie charts
* Know how to cancel fractions
* Know how to decipher the scales within context
* Know a factor is a number that goes into a number
* Know how to use powers and roots
* 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 roots
* Know how to multiply and divide using negatives
 | **Key skills and knowledge assessed:**Key Skills:* Use formulae expressed in words/ letters
* Round numbers to a given DP
* Round numbers to the nearest whole number, 10, 100 or 1000Use a range of measuring scales.
* Problem solve problems using symmetry/angle
* Interpret and construct pie charts
* Substitute numbers into formulae
* Use formulae expressed in words/ letters
* Change the subject
* Simplify ratio

Knowledge* Know how to identify formulae from given text
* Know how to round to decimal places know how to round to 1 dp
* Know how to round to nearest 10, 100, 1000
* Know how to identify and use lines of symmetry
* Know how to create and use pie charts
* Know how to substitute letters for numbers to find answers
* Know how to identify formulae from given text
 | **Key skills and knowledge assessed:**Key Skills:* Transformations, describe and plot translations
* Use coordinates for direction
* Problem solve using coordinates
* Convert between metric units.
* Use formulae expressed in words/ letters
* Round numbers to a given DP
* Round numbers to the nearest whole number, 10, 100 or 1000
* Use a range of measuring scales.
* Use formulae expressed in words/ letters
* Round numbers to a given DP
* Round numbers to the nearest whole number, 10, 100 or 1000
* Use a range of measuring scales.

Knowledge:* Know how to translate shapes
* Know how to describe transformations
* Know how to use coordinates to solve problems
* Know how to convert metric units e.g. mm -cm-m-km and reverse
* Know how to identify formulae from given text
* Know how to round to decimal places know how to round to 1 dp
* Know how to round to nearest 10, 100, 1000
* Know how to decipher the scales within context
 | **Key skills and knowledge assessed:**Key Skills:* Generate sequences
* Apply the four operations with negative numbers
* Calculate the area of shapes e.g. rectangle, triangle
* Identify 3d shapes and their properties, faces, vertices, edges
* Substitute numbers into formulae
* Transformations, describe and plot translations

Knowledge:* Know how to identify and generate term to term sequences
* Know how to use the four operation when working with negatives
* Know the formula for the area of a rectangle
* Know the formula for the area of a triangle
* Know how to name a 3D shape
* Know the names of 3d shapes
* Know the difference between 2 and 3d shapes
* Know how to translate shapes
* Know how to describe transformations
 | Key skills and knowledge assessed:Key Skills:* Find averages, mode, median, mean, range
* Write a quantity as a fraction or percentage of another
* Use multiplicative reasoning to interpret percentage
* Identify the order of rotational symmetry
* Create and use stem and leaf diagrams
* Problem solve problems using symmetry/angle
* Simplify fractions
* Identify Equivalent fractions

Knowledge:* Know how to present data in a stem and leaf
* 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 calculate the mean
* Know that a percentage is out of 100 and how to find a % of an amount
* Know how to find and identify the order or rotational symmetry
* Know how to identify and use lines of symmetry
* Know how to cancel fractions
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| **Meaningful homeworks:****Paper-based task on current and previous topics**Dividing into ratio amountsSequences (term to term)Quadrilaterals | **Meaningful homeworks:****Paper-based task on current and previous topics**RatioMultiples / LCMFactorsIndices and rootsSequencesCoordinatesNegative numbers | **Meaningful homeworks:** **Paper-based task on current and previous topics**RatioPie ChartsWorded FormulaCommon ShapesAlgebra | **Meaningful homeworks:****Paper-based task on current and previous topics**RatioWorded formulaVariablesNegative NumbersRoundingCoordinatesTranslations | **Meaningful homeworks:****Paper-based task on current and previous topics**RatioSequences term to term / nth term3D shape propertiesWorded formula | **Meaningful homeworks:****Paper-based task on current and previous topics**RatioFDPPercentage increaseFrequency TablesNumber systemCircumference Line symmetry |
| **Key skills and knowledge assessed:** Key Skills* Simplify ratio
* Generate sequences
* Know the names and basic properties of special triangles and quadrilaterals
* Generate sequences by term-to-term rule given an initial number
* Simplify ratio

Knowledge:* Know how to identify and generate term to term sequences
* Know the names and basic properties of special triangles and quadrilaterals
 | **Key skills and knowledge assessed:**Key Skills* Solve problems using multiples including addition and subtraction
* Solve problems using factors/multiples/primes/HCF/LCM.
* Identify multiples, factors and powers
* Use positive integer powers and associated real roots
* Generate sequences by term-to-term rule given an initial number

Knowledge:* 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 multiply and divide using negatives
 | **Key skills and knowledge assessed:** Key Skills* Use formulae expressed in words/ letters
* Calculate the area of shapes e.g. rectangle, triangle
* Identify 3d shapes and their properties, faces, vertices, edges
* Substitute numbers into formulae
* Change the subject

Knowledge:* Know the names and basic properties of special triangles and quadrilaterals
* Know how to create and use pie charts
* Know how to substitute letters for numbers to find answers
* Know how to create and use pie charts
* Know how to identify formulae from given text
 | **Key skills and knowledge assessed:** Key Skills* Know how to use coordinates to solve problems
* Transformations, describe and plot translations
* Use coordinates for direction
* Problem solve using coordinates
* Simplify ratio
* Round numbers to a given DP
* Round numbers to the nearest whole number, 10, 100 or 1000
* Understand and use place value to add/subtract/multiply and divide integers (both positive and negative) a using mental and written methods

Knowledge:* Know how to use a 1:n ratio to convert money in both directions
* Substitute numbers into formulae
* Change the subject
* Know how to describe transformations
* Know how to round to nearest 10, 100, 1000
* Know how to multiply and divide using negatives
 | **Key skills and knowledge assessed:** Key Skills:* Simplify ratio
* Identify 3d shapes by their properties
* Substitute numbers into formulae

Knowledge:* Know how to name a 3D shape
* Know how to identify and generate term to term sequences
* Generate sequences
* Know how to name a 3D shape from the base as a prism or pyramid
* Know how to substitute letters for numbers to find answers
* Know how to simplify ratio
 | **Key skills and knowledge assessed:** Key Skills:* Simplify ratio
* Simplify fractions
* Identify Equivalent fractions
* circumference of circles
* Problem solve problems using symmetry/angle

Knowledge:* Know a factor is a number that goes into a number
* Know how to multiply and divide numbers
* Know how to cancel fractions
* Know how to identify and use lines of symmetry
* Know how to present data in a stem and leaf
* 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 calculate the mean
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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** |