YEAR 7
Spring Term

Addition & Subtraction

- Properties of addition and subtraction
- Mental strategies for addition and subtraction
- Use formal methods for addition of integers and decimals
- Use formal methods for subtraction og integers and decimals
- Choose the most appropriate method: Mental strategies, formal written or calculator
- Solve problems in the context of perimeter
- Solve financial maths problems
- Solve problems involving tables and timetables
- Solve problems with frequency trees
- Solve problems with bar charts and line charts
- Add and subtract numbers givenin standard form   H

Multiplication & Division

- Properties of multiplication and division
- Understand and use factors
- Understand and use multiples
- Multiply and divide integers and decimals by powers of 10
- Multiply by 0.1 and 0.01   H
- Convert metric units
- Use formal methods to multiply integers and decimals
- Use formal methods to divide integers and decimals
- Understand and use order of operations
- Solve problems using the area of rectangles and parallelograms
- Solve problems using the area of trapezia   H
- Solve problems using the mean
- Explore multiplication and division in algebraic expressions   H

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Fractions & Percentages of Amounts

- Find a fraction of a given amount
- Use a given fraction to find the whole and/or other fractions
- Find a percentage of a given amount using mental methods
- Find a percentage of a given amount using a calculator
- Solve problems with fractions greater than 1 and percentages greater than 100%   H

Directed Number

- Understand and use representations of directed numbers
- Order directed numbers using lines and appropriate symbols
- Perform calculations that cross zero
- Add directed numbers
- Subtract directed numbers
- Multiplication and division of directed numbers
- Use a calculator for directed number calculations
- Evaluate algebraic expressions with directed number
- Introduction to two-step equations
- Solve two-step equations
- Use order of operations with directed numbers
- Roots of positive numbers   H
- Explore higher powers and roots   H

Fractional Thinking

- Understand representations of fractions
- Convert between mixed numbers and fractions
- Add/subtract unit fractions with the same denominator
- Add/subtract fractions with the same denominator
- Add/subtract fractions from integers expressing the answer as a single fraction

YEAR 7
Spring Term

Fractional Thinking

- Understand and use equivalent fractions
- Add/ subtract fractions where denominators share a simple common multiple
- Add/ subtract fractions with any denominator
- Add/ subtract improper fractions and mixed numbers
- Use fractions in algebraic contexts
- Use equivalence to add/ subtract decimals and fractions
- Add/ subtract simple algebraic fractions   H

YEAR 8
Spring Term

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Brackets, Equations & Inequalities

- Form algebraic expressions
- Use directed number with algebra
- Multiply out a single bracket
- Factorise into a single bracket
- Expand multiple single brackets and simplify
- Expand a pair of binomials   H
- Solve equations, including with brackets
- Form and solve equations with brackets
- Understand and solve simple inequalities
- Form and solve inequalities
- Form and solve equations/ inequalities with unknowns on both sides   H
- Identify and use formulae, expressions, identities and equations

Sequences

- Generate sequences given a rule in words
- General sequences given a simple algebraic rule
- Generate sequences given a complex algebraic rule
- Find the rule for the nth term of a linear sequence   H

Indices

- Adding/ subtracting expressions with indices
- Simplifying algebraic expressions by multiplying indices
- Simplifying algebraic expressions by dividing indices
- Using the addition law for indices
- Using the addition and subtraction law for indices
- Exploring powers of powers   H

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Fractions & Percentages

- Convert fluently between key fractions, decimals and percentages   R
- Calculate key fractions, decimals,and percentages of an amount without a calculator   R
- Calculate fractions, decimals and percentages of an amount using calculator methods   R
- Convert between decimals and percentages greater than 100%
- Percentage decrease with a multiplier
- Calculate percentage increase and decrease using a multiplier
- Express one number as a fraction or a percentage of another without a calculator
- Express one number as a fraction or a percentage of another using calculator methods
- Work with percentage change
- Choose appropriate methods to solve percentage problems
- Find the original amount given the percentage less/ greater than 100%   H
- Choose appropriate methods to solve complex percentage problems   H

Standard Form

- Investigate positive powers of 10
- Work with numbers greater than 1 in standard form
- Investigate negative powers of 10
- Work with numbers between 0 and 1 in standard form
- Compare and order numbers in standard form
- Mentally calculate with numbers in standard form
- Add/ subtract numbers in standard form
- Multiply/ divide numbers in standard form
- Use a calculator to work with numbers in standard form

Standard Form

- Understand and use negative indices   H
- Understand and use fractional indices   H

Number Sense

- Round numbers to powers of 10, and 1 significant figure   R
- Round numbers to a given number of decimal places
- Estimate the answer to a calculation
- Understand and use error interval notation   H
- Calculate using the order of operations   R
- Calculate with money
- Convert metric measures of length
- Convert metric units of weight and capacity
- Convert metric units of area   H
- Convert metric units of volume   H
- Solve problems involving time and the calendar

YEAR 9
Spring Term

Numbers

- Integers, real and rational numbers
- Understand and use surds   H
- Work with directed number   R
- Solve problems with integers
- Solve problems with decimals
- HCF and LCM   R
- Adding/ subtracting fractions   R
- Multiplying/ dividing fractions   R
- Solving problems with fractions
- Numbers in standard form   R

Using Percentages

- Use the equivalence of fractions, decimals and percentages   R
- Calculate percentage increase and decrease   R
- Express a change as a percentage   R
- Solve 'reverse' percentage problems
- Recognise and solve percentage problems (non-calculator)
- Recognise and solve percentage problems (calculator)   R
- Solve problems with repeated percentage change   H

Maths & Money

- Solve problems with bills and bank statements
- Calculate simple interest
- Calculate compound interest
- Solve problems with Value Added Tax
- Calculate wages and taxes
- Solve problems with exchange rates
- Solve unit pricing problems

YEAR 9
Spring Term

Deductions

- Angles in parallel lines   R
- Solving angles problems (using chains of reasoning)
- Angles problems with algebra
- Conjectures with angles
- Conjectures with shapes
- Link constructions and geometrical reasoning   H

Rotation & Translation

- Identify the order of rotational symmetry of a shape
- Compare and contrast rotational symmetry with line symmetry
- Rotate a shape about a point on a shape/ not on a shape
- Translate points and shapes by a given vector
- Compare rotation and reflection of shapes
- Find the result of a series of transformations   H

Pythagoras' Theorem

- Squares and square roots   R
- Identify the hypotenuse of a right-angled triangle
- Determine whether a triangle is right-angled
- Calculate the hypotenuse of a right-angled triangle
- Calculate missing sides in right-angled triangles
- Use Pythagoras' Theorem on coordinate axes
- Explore proofs of Pythagoras' Theorem
- Use Pythagoras' Theorem in 3-D shapes   H