

Construction and Measuring

- Understand and use letter and labelling conventions including those for geometric figures
- Draw and measure line segments including geometric figures
- Understand angles as a measure of turn
- Classify angles
- Measure angles up to 180°
- Draw angles up to 180°
- Draw and measure angles between 180° and 360°
- Identify perpendicular and parallel lines
- Recognise types of triangle
- Recognise types of quadrilateral
- Identify polygons up to a decagon
- Construct triangles using SSS, SAS and ASA
- Construct more complex polygons
- Interpret simple pie charts using proportion
- Interpret pie charts using a protractor
- Draw pie charts

Geometric Reasoning

- Understand and use the sum of angles at a point
- Understand and use the sum of angles on a straight line
- Understand and use the equality of the vertically opposite angles
- Know and apply the sum of angles in a triangle
- Know and apply the sum of angles in a quadrilateral
- Solve angle problems using properties of triangles and quadrilaterals
- Solve angle problems using properties of triangles and quadrilaterals




Geometric Reasoning

- Solve complex angle problems
- Find and use the angle sum of any polygon H
- Investigate angles in parallel lines H
- Understand and use parallel line angle rules H
- Use known facts to obtain simple proofs H

Developing Number Sense

- Know and use mental addition and subtraction strategies for integers
- Know and use mental multiplication and division strategies for integers
- Know and use mental arithmetic strategies for decimals and fractions
- Use factors to simplify calculations
- Use estimation as a method for checking mental calculations
- Use known number facts to derive other facts
- Use known algebraic facts to derive other facts
- Know when to use a mental strategy, formal written method or a calculator

Sets and Probability

- Identify and represent sets
 - Interpret and create Venn diagrams
 - Understand and use the intersection of sets
 - Understand and use the union of sets
 - Understand and use the complement of a set H
 - Know and use the vocabulary of probability
 - Generate sample spaces for single events
 - Calculate the probability of a single event
- 



YEAR 7

Summer Term

Sets and Probability

- Understand and use the probability scale
- Know that the sum of probabilities of all possible outcomes is 1

Prime Numbers and Proof

- Find and use multiples
- Identify factors of numbers and expressions
- Recognise and identify prime numbers
- Recognise square and triangular numbers
- Find common factors of a set of numbers including the HCF
- Find common multiples of a set of numbers including the LCM
- Write a number as a product of its prime factors
- Use a Venn diagram to calculate the HCF and LCM
- Make and test conjectures
- Use counterexamples to disprove a conjecture

H

Angles in Parallel Lines & Polygons

- Under stand and use basic angles rules and notations R
- Investigate angles between parallel lines and the transversal
- Identify and calculate with co-interior, alternate and corresponding angles
- Solve complex problems with parallel line angles
- Construct triangles and special quadrilaterals R
- Investigate the properties of special quadrilaterals
- Identify and calculate with sides and angles in special quadrilaterals
- Understand and use the properties of diagonals of quadrilaterals H
- Understand and use the sum of exterior/ interior angles in any polygon
- Calculate missing interior angles in regular polygons
- Prove simple geometric facts H
- Construct an angle bisector H
- Construct a perpendicular bisector of a line segment H

Area of Trapezia and Circles

- Calculate the area of triangles/ rectangles/ parallelograms R
- Calculate the area of a trapezium
- Calculate the perimeter and area of compound shapes
- Investigate the area of a circle
- Calculate the area of a circle and parts of a circle with/ without a calculator

Line Symmetry and Reflection

- Recognise line symmetry
- Reflect a shape in a horizontal/ vertical line (shapes touching/ not touching the line)



Line Symmetry and Reflection

- Reflect a shape in a diagonal line (shapes touching/ not touching the line)

The Data Handling Cycle

- Set up a statistical enquiry
- Design and criticise questionnaires
- Draw and interpret pictograms, bar charts and vertical line charts R
- Draw and interpret multiple bar charts
- Draw and interpret pie charts R
- Draw and interpret line graphs
- Choose the most appropriate diagram for given set of data
- Represent and interpret grouped quantitative data
- Find and interpret the range
- Compare distributions using charts
- Identify misleading graphs

Measures of Location

- Understand and use the mean, median and mode
- Choose the most appropriate average
- Find the mean from an ungrouped frequency table H
- Find the mean from a grouped frequency table H
- Identify outliers
- Compare distributions using averages and the range

Enlargement & Similarity

- Recognise enlargement and similarity
- Enlarge a shape by a positive integer scale factor
- Enlarge a shape by a positive integer scale factor from a point
- Enlarge a shape by a positive fractional scale factor
- Enlarge a shape by a negative scale factor H
- Work out missing sides and angles in a pair of given similar shapes
- Solve problems with similar triangles H
- Explore ratios in right-angled triangles H

Ratio and Proportion

- Solve problems with direct proportion R
- Direct proportion and conversion graphs R
- Solve problems with inverse proportion
- Graph of inverse relationships H
- Solve ratio problems given the whole or a part R
- Solve 'best buy' problems
- Solve problems ratio and algebra H

Rates

- Solve speed, distance and time problems with/ without a calculator
- Use distance/ time graphs
- Solve problems with density, mass and volume
- Solve flow problems and their graphs
- Rates of change and their units
- Convert compound units H

Probability

- Single event probability R
- Relative frequency- include convergence
- Expected outcomes
- Independent events
- Use tree diagrams H
- Use tree diagrams to solve 'without replacement' problems H
- Use diagrams to work out probabilities

Algebraic Representation

- Draw and interpret quadratic graphs
- Interpret graphs, including reciprocal and piece-wise
- Investigate graphs of simultaneous equations H
- Represent inequalities

Revision