

1. Ratio, Proportion, and Percent

- Unit rate
- Proportions
- Percent of a quantity
- Percent increase and decrease
- Scale and scale factor
- Proportional vs non-proportional relationships
- Multi-step ratio problems
- Best-buy and comparison problems
- Ratio, percent, and proportional reasoning in practical contexts

2. Number System

- Integer operations
- Rational numbers
- Comparing and ordering rational numbers
- Multi-step operations with rational numbers
- Exponents
- Scientific notation
- Square roots
- Greatest common factor and least common multiple
- Estimation, precision, and reasonableness checks
- Number-line reasoning and absolute value where appropriate

3. Expressions, Equations, and Inequalities

- Simplifying expressions
- Writing expressions from contexts
- Linear equations
- Equations in context
- Inequalities
- Inequalities in context
- Introductory systems of equations using tables, graphs, or simple contexts
- Sequences and algebraic rules
- Equivalent expressions and valid algebraic steps
- Checking and interpreting solutions

4. Functions and Coordinate Reasoning

- Function concept
- Linear relationships
- Comparing functions
- Graph features
- Coordinate plane and plotting
- Slope as rate of change
- Tables, graphs, and equations
- Input-output rules
- Interpreting relationships in context
- Introductory modelling with graphs and equations

5. Geometry and Measurement

- Angle relationships
- Area of common and composite figures
- Volume of prisms and other age-appropriate solids

- Surface area
- Pythagorean theorem in right-triangle and coordinate-distance contexts
- Transformations: translations, reflections, rotations, and dilations/enlargements where appropriate
- Similarity and scale in geometric contexts
- Coordinate geometry in simple contexts
- Geometric measurement in real-world situations

6. Statistics and Probability

- Data displays
- Measures of centre and spread
- Comparing data sets
- Scatter plots and simple association where appropriate
- Probability
- Sampling and bias
- Data quality and representativeness at an introductory level
- Experimental vs theoretical probability where appropriate
- Statistical conclusions and limitations

7. Math Problem Solving and Modelling

- Multi-step and unfamiliar problem solving
- Choosing suitable mathematical strategies
- Modelling with equations, tables, graphs, diagrams, and calculations
- Estimation, precision, and reasonableness checks
- Financial and real-world contexts
- Rates, percentages, scale, efficiency, and comparison problems
- Constraints such as cost, time, quantity, space, and materials
- Communicating reasoning using notation, units, diagrams, and short explanations