## Trimester 3 Subject Overview

### Class 7

<table>
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<th>Topics</th>
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| **Ratio And Proportion**    | - Read and write ratios, including 3 ratios  
- Find equivalent ratios, including 3 ratios  
- Solve real-world problems involving ratios, and interpret fraction form  
- Write ratios in fraction form to find how many times as large as one number another number is.  
- Solve real-world problems involving ratios and fractions, including 3 ratios |
| **Fractions/Percentages**   | - Use percentages to represent and compare different quantities  
- Find equivalent fractions, decimals and percentages by converting between them  
- Convert a fraction to a decimal using division; know that a recurring decimal is a fraction  
- Order fractions by writing with common denominators or dividing and converting to decimals  
- Add and subtract fractions and mixed numbers; calculate fractions of quantities (fraction answers); multiply and divide an integer by a fraction  
- Calculate and solve problems involving percentages of quantities and percentage increases or decreases; express one given number as a fraction or percentage of another  
- Use equivalent fractions, decimals and percentages to compare different quantities |
| **Solids; Surface Area and Volume** | - Recognise and describe common solids and some of their properties, e.g. the number of faces, edges and vertices  
- Derive and use the formula for the volume of a cuboid; calculate volumes of cuboids  
- Calculate the surface area of cubes and cuboids from their nets  
- Draw simple nets of solids, e.g. cuboid, regular tetrahedron, square-based pyramid, triangular prism  
- Use simple nets of solids to work out their surface areas |
<p>| <strong>Review of whole year material and Exam techniques</strong> | |
| <strong>End of Year Exam</strong> | |</p>
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| Probability            | • Use the language of probability to describe and interpret results involving likelihood and chance  
• Understand and use the probability scale from 0 to 1  
• Know that if the probability of an event occurring is \( p \), then the probability of it not occurring is \( 1 - p \)  
• Find probabilities based on equally likely outcomes in simple contexts  
• Identify all the possible mutually exclusive outcomes of a single event  
• Use experimental data to estimate probabilities  
• Compare experimental and theoretical probabilities in simple contexts |
| Interpreting and      | • Know the difference between discrete and continuous data  
• Construct and use frequency tables with given equal class intervals to gather data  
• Range, mean, median and mode and the modal class  
• Interpret tables, graphs and diagrams for discrete and continuous data, and draw conclusions, relating statistics and findings to the original question  
• Compare two sets of data  
• Compare proportions in two pie charts that represent different totals  
• Draw, and interpret: pie charts, line graphs and stem-and-leaf graphs |
| Comparing Data         |                                                                                                                                                                                                           |
| Proportion             | • Direct Proportion  
• Graphs and direct proportion  
• Inverse proportion  
• Comparing direct and inverse proportion  
• Solve real world problems using proportion, interpret solutions and  
• Area formulae for triangle, kite, rhombus, parallelogram  
• the formula to find circumference and area of a circle  
• the parts of circle - radius, diameter, circumference |
| Circles                |                                                                                                                                                                                                           |
| Review of whole year  |                                                                                                                                                                                                           |
| material and Exam     |                                                                                                                                                                                                           |
| techniques            |                                                                                                                                                                                                           |
| End of Year Exam       |                                                                                                                                                                                                           |
## Class 9

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| **Sequences** | • Continuation of a sequence of numbers or patterns  
• Determination of the nth term, and using given formula  
• Understand the difference between formula and pattern.  
• Apply sequences to problem solving  
• understand the difference in terminology with respect to arithmetic and geometric sequences. |
| **Compound and simple interest** | • Understand savings and simple interest  
• Solve problems involving compound interest  
• Appreciation and depreciation |
| **Formulae and Equations** | • Using and creating formulae  
• Changing the subject of complex formulae  
• Solving complex linear equations  
• Solving fractional equations  
• Understanding and solving inequalities |
| **Algebraic Fractions** | • Understanding equivalent fractions  
• Applying 4 operations to algebraic fractions  
• Using complex common denominators |
| **The straight Line** | • Using \( y = mx + c \)  
• Finding and using gradient to solve problems  
• Modeling using linear functions |
| **Further Algebra** | • Derivation, rearrangement and evaluation of formulae.  
• Rearrange formulae to change the subject, including cases where the subject appears twice, or where a power or reciprocal of the subject appears.  
• Algebraic fractions: simplification, including use of factorization, addition or subtraction of fractions with linear denominators, multiplication or division and simplification of two fractions  
• Solution of quadratic equations: by factorization, using a graphics calculator, using the quadratic formula; \textit{formula given}  
• Rearrange and solve quadratic equations by factorising or using the quadratic formula.  
• Use of a graphics calculator to solve equations, including those which may be unfamiliar; |

### Preparation for Cambridge Checkpoint Exams

**Review of whole year material and Exam techniques**

**End of Year Exam**