



# Emanuel School

## 13+ (Year 9 entrance) Maths Emanuel School entrance exam topic list

Candidates will need to be familiar with most of the skills and knowledge from Key Stage 3 Mathematics.

Problem solving questions will require the willingness to think and persevere with a problem.

The list below covers some of the topics which may be tested. Please note that this is a guide and not an exhaustive list.

### **Fractions, ratios and percentages**

- Calculations involving percentages
- Ratios including sharing in a ratio

### **Number skills**

- Linear sequences and other simple sequences, e.g. square numbers
- Rounding to significant figures / decimal places
- Probability
- Mean, mode, median and range of a set of data.
- Pie Charts
- Calculations involving speeds
- Basic algebra, including multiplying out brackets and extracting common factors
- Solving linear equations, including simple cases with fractions

### **Shapes**

- Line and rotational symmetry
- Transformations: reflections, translations, rotations and enlargements
- Areas and perimeters of triangles, quadrilaterals and circles
- Volumes of prisms, including cylinders
- Pythagoras's Theorem
- Plotting co-ordinates and simple linear graphs from a table
- Angles/ geometry, including polygons and parallel lines.