



There will be one non-calculator 45-minute examination. The majority of questions will test understanding of the concepts rather than simple recall of rules. It is not expected that candidates will be able to answer all the questions. Children should be encouraged to show their workings out on the paper. What follows is not a detailed syllabus but an indication of the knowledge which will be assumed.

Number

Write numbers in words and digits up to a billion.
Round numbers to the nearest 10, 100, 1000.

Arithmetic

Addition, subtraction and multiplication (including two digit by three digit) of whole numbers. Division by a number not greater than 12 (except for multiplication by multiples of 10, 100 etc.). Add, subtract, multiply and divide with negative numbers. Numerical evaluation of expressions involving brackets. Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use.

Fractions

Understand the terms numerator and denominator. Find equivalent fractions, compare relative size of two or more fractions, adding and subtracting fractions, finding a fraction of a quantity. Proper fraction multiplication and division.

Decimals

Expressed as fractions, adding and subtracting, multiplication and division of a decimal by 100, 1000 or any whole number not greater than 10 and the relative size of decimals. Ordering decimals up to 3 decimal places.

Factors, Multiples and Indices

Finding factors of whole numbers. Lowest common multiple and highest common factor, simple cases only. Use index notation for integer powers.

Percentages

Understanding of the meaning of a percentage and finding the percentage of a quantity. Increase and decrease by a percentage.

Money

UK currency only: the relation $\pounds 1 = 100\text{p}$.

Measure

Familiarity with the following units: m, cm, km, g, kg, mile, hour, minute; the relations $1\text{m} = 100\text{cm}$, $1\text{km} = 1000\text{m}$, $1\text{kg} = 1000\text{g}$, $1\text{hr} = 60\text{ minutes}$, $1\text{minute} = 60\text{ seconds}$.

Algebra

Use simple formulae, substitute values into expressions. Generate and describe linear number sequences and be able to find the next terms in a sequence. Be able to use number machines, in both directions.

Shape and Space

Perimeter and Area

The rule for finding the area of a triangle and rectangle.

Volume

Familiarity with the concept but no formulae will be needed. Name and draw simple plane shapes. Recognise and draw lines of symmetry. Plotting and reading coordinates in one quadrant.

Angles

Angles as a measure of turning; the terms revolution, right angle and degree. Sum of angles in a triangle is 180 degrees, in a rectangle is 360 degrees and about a point is 360 degrees.

Handling Data

Graphs; including bar charts, pie charts in an everyday context. Calculate the mean, median, mode as an average and range.

There is a sample mathematics paper on our website www.reigategrammar.org. Please note the problem solving questions towards the end of the paper are there to test understanding and will therefore vary in content each year.