DULWICH COLLEGE
FOUNDED 1619

11+ Syllabus Summary for Mathematics

The entrance paper examination consists of a 1 hour written paper. Candidates should be familiar with most of the skills and knowledge of Key Stage 2 Mathematics. However, the emphasis is more on testing the ability to think rather than just knowledge, i.e. there will be several questions on 'easy' topics which require a willingness to think and persevere with a problem. Basic numeracy is assumed, i.e. the four operations with integers. Calculators are not allowed in the examination.

Some specific topics which may be tested are:

1. Rounding to the nearest 10, 100 or 1000
2. Continuing a sequence with a common difference
3. Understand the use of brackets in calculations
4. Know prime numbers to 20 and square numbers to 100
5. Find factors and multiples of numbers
6. Find fractions of shapes and quantities, cancel fractions using equivalent fractions and order fractions by converting to a common denominator
7. Know the standard conversions between decimals and fractions for half, quarters, tenths and hundredths
8. Understand that percentage mean 'parts per 100' and find simple percentages of whole numbers.
9. Solve simple problems involving ratio and direct proportion.
10. Use decimals in context, e.g. money, lengths
11. Order decimals, rounding a decimal to the nearest integer or tenth, add, subtract decimals, multiply and divide decimals by a single digit
12. Construct and use simple formulae in contexts, e.g. $c = 15n$.
13. Solve problems involving co-ordinates in all four quadrants
14. Recognise right angles, perpendicular and parallel lines
15. Measure and draw acute, obtuse and right angles to the nearest degree
16. Know the geometric facts about angles at a point, angles on a straight line and angles in a triangle
17. Recognise the shapes: square, rectangle, parallelogram, rhombus and trapezium
18. Solve problems involving line and rotational symmetry
20. Calculate the position of a shape following a rotation, reflection or translation
21. Use units of money, length, mass, capacity, time, perimeter or area in context
22. Solve simple problems involving speed, distance or time
23. Convert between metres, centimetres, millimetres and kilometres, or grams and kilograms
24. Read scales, including analogue and digital 12 or 24 hour clocks
25. Units seconds, minutes, hours, days, weeks in miscellaneous problems
26. Find the perimeter of simple shapes

27. Find areas of rectangles and of simple right angled triangles by halving a rectangle
28. Interpret tables, lists and charts used in everyday life, including pie charts
29. Calculate the mean, mode or range of a simple list of data
30. Use words such as ‘equally likely’, ‘fair’, ‘unfair’, ‘certain’