St George's College, Weybridge
Syllabus for 11+ Mathematics Entrance Examination

The girls and boys are expected to be working at Level 5 of the National Curriculum. The layout of the examination paper will be similar to that of Keystage 2. It is essential that working out is shown in the spaces provided and credit will be given for correct methods used. Topics examined will include:

- The four rules (+, -, x, ÷) applied to whole numbers, decimals and fractions.
- Long multiplication and long division of whole numbers and decimals will be tested.
- Money problems. Simple ideas about proportion.
- Weights and measures in metric units
- Problems involving time, the 24 hour clock and reading and understanding simple timetables.
- Recognition of pattern in symmetry and number sequences, simple averages and rounding up numbers to give approximate estimates.
- Simple problems involving value comparison using fractions and percentages of quantities.
- Bar charts, pictograms and extracting information from them.
- Coordinates in the first quadrant
- Experience of pattern seeking and problem solving.
- Perimeter, area and volume of simple shapes.

There will usually be between 25 and 28 short questions in the paper. Questions are frequently set in which the knowledge required is supplied. Therefore the students should not be afraid to attempt questions which appear unfamiliar. Every effort is made to set a paper that gives all candidates a chance to show their mathematical capabilities.

It is important that all working out in the examination is shown accurately and methodically.

A pen, pencil, rubber and ruler marked in cm and mm should be brought to the examination. **Calculators are not permitted.**

St George's College
Weybridge

Syllabus and Sample Questions

For

11+ Entrance Examination

MATHEMATICS

45 minutes

Read the following instructions carefully

- **There are between 25 and 28 questions.** You should attempt all of them in any order you like.
- **Write neatly and show all your working.** It may be possible to give you marks if your working makes sense, even if your final answer is wrong.
- **Put your answer in the space provided.** If you think you have finished check that you have answered all the questions.
- **Keep an eye on the time.** Work carefully and steadily. Move on to another question if you find yourself spending too long on a question.
- **You may not use a calculator.**

Sample Questions

The questions in the following section have been set in past entrance examinations and have been selected to demonstrate the ways in which both basic skills and the understanding of simple concepts are tested. The time allowed is 45 minutes.

1. 192 +888

2. 888 -192

3. 14 x 7 x 2

4. 18-17+16-15+14-13

5. 531 x 135

6. 12321 ÷ 9

7. £1.28 + 57p

8. £1.28 – 57p

9. Write in figures the number forty two thousand and eight.

10. (a) Express 51 km in metres (b) Express 510 cm in metres

11. To cook a joint of beef, you leave it in the oven for 30 minutes for every kilogram it weighs plus 20 minutes extra. Find how long you should cook a joint weighing:
(a) 2kg (b) 3.5kg

12. For a film, the seats cost £3 for each child and £7 for each adult. I was charged £51 for all the seats I bought.
(i) Did I buy more than 7 adult tickets?
(ii) If there were more adult tickets than child tickets, how many of each did I buy?
(iii) If there were more child tickets than adult tickets, how many of each did I buy?

13. A rectangle measures 4.0 cm by 7.1 cm. What is its area?

14. Every day a jogger runs 4km.
(i) Find out how far he runs in 4 weeks.
(ii) If he takes 15 minutes to run 4km, what is his average speed in km per hour?

15. A ferry crossing from Dover to Calais was supposed to leave at 0745 and take one and a quarter hours. In fact the ferry left 17 minutes late and arrived at Calais at 0911.
(i) Using the 24 hour clock, write the time when the ferry left Dover.
(ii) How many minutes did the crossing from Dover to Calais actually take?
(iii) How many minutes late did the ferry arrive in Calais?

16. When two numbers are added together, the result is 32. When the smaller number is subtracted from the larger one, the result is 6. Find the numbers.

17. A piece of string is 12.6cm long. If a piece 3.75cm is cut from it, how long is the piece of string that remains?

18. Eggs are sold in boxes of 12, costing £1.68. I wish to make 15 cakes for a local fete and the recipe requires that I use 5 eggs for each cake.

(i) How many eggs will I use altogether if I make 15 cakes?
(ii) How many boxes must I buy to ensure I have enough eggs to make the 15 cakes?
(iv) How much will I pay for the eggs?

19. A ream of paper consists of 500 sheets. If one sheet of paper has a mass of 4.75 g, what would be the mass of 1 ream of paper?

(i) Give your answer in grams.
(ii) Give your answer in kilograms

20. On a trip to France, I found that one English pound was worth 1.2 Euros. So for example, I would receive 2.4 Euros in exchange for £2.

(i) On a ferry to France, I wanted to buy a large bar of Toblerone chocolate, which cost £3. How many Euros would I have to pay for it?

. (ii) A certain bottle of wine in France costs 7.5 Euros. How much is that in English pounds?

21. Fill in the missing numbers in the following sequences:

(i) 7, 10, __, 16, 19, __, 25
(ii) 192, 96, 48, ___, 12, 6, __

22. I used my calculator to work out (31 x 9) ÷ 52. Before doing so I worked out in my head that the answer should be about six. What was the simple calculation I did in my head?

23. A box of Kiddimix contains 20 chocolates of which 8 are plain chocolates. If 16 of the 20 have soft centres, what can you say about how many plain chocolates there are with soft centres?

24. (i) Find $\frac{5}{8}$ of 240m (ii) Find 20% of £350

(iii) A student sleeps for 9 hours every night. For what fraction of the whole day, is the student awake? Give your answer in its most simplified form.

25. Find the values of (i) $2\frac{1}{2} + 4\frac{1}{4}$ (i) $+ 4\frac{1}{4} - 2\frac{1}{2}$