

Trinity School Croydon

ENTRANCE EXAM.

10+

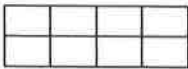

SYLLABUS and SAMPLE QUESTIONS

Mathematics

**(For candidates over 10 and under 11
on 1st September of year of entry)**

Mathematics sample paper for 10–11 year group

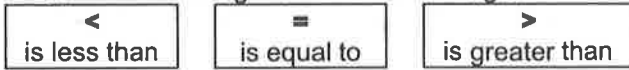
The exam paper is a combined question and answer paper. Space is given for workings for each question.

1. Add: $436 + 87 + 375$
2. Subtract: $3238 - 784$
3. Multiply: 57×28
4. Divide: $273 \div 7$
5. Write down the number four thousand and eighty one in figures.
6. What is the value of the 5 in each of the following numbers?
(i) 38 514 (ii) 257 983
7. Small chocolate bars cost 23p each.
(a) How much would twelve such bars cost?
(b) How many could be bought for £4
8. Malcolm buys seven packets of biscuits at 99p each and five large cakes at £1.99 each. How much change will he receive from a £20 note?
9. Calculate $\frac{1}{8}$ of 400
10. If three identical books cost £3.90 together, how much would seven books cost?
11. How many minutes are there between 9.23 am and 11.06 am?
12. Shade in $\frac{3}{4}$ of this diagram.  What fraction is shaded here? 
13. When a fifth of the class is absent, there are 24 pupils present. What is the total number of pupils in the class?
14. Add together 3.4 m, 82 cm and 6 m 9 cm, giving your answer in cm.
15. Peter makes a sequence of numbers starting with 25. He subtracts 8 each time. Write down the next three numbers in the sequence
25 17 9
16. Write down which of these numbers is the largest and which is the smallest.
(a) 0.7 0.37 0.74 0.079
(b) $\frac{1}{2}$ $\frac{3}{8}$ $\frac{3}{4}$ $\frac{7}{8}$
17. (a) In eight minutes a train travels 12 km. How far will it travel in 24 minutes?
(b) How far would the same train travel in 20 minutes?
18. Here is a sequence of numbers: 5 8 11 14 17.
This pattern could be described as "to get the next number, add three to the previous number".
Write down in words similar rules for the patterns of each of these sequences:
(a) 1 7 13 19 25
(b) 3 6 12 24 48
(c) 1 2 4 7 11 16
19. Simon is asked to add six to a number and then to multiply by three. By mistake he first multiplies by three and then adds six. If he gets the answer 54 what number did he start with and what answer should he have obtained?
20. A one-litre bottle of lemonade costs 72p; a one and half litre bottle costs £1.05. Which seems to be better value for money – explain how you decided on your answer.
21. The entrance charges to an amusement park are given in this table:

	Adult	Child
Weekday	£3.00	£2.00
Saturday	£5.00	£2.50
Sunday	£4.00	£2.30

(a) How much would it cost for one adult and two children on a Saturday?
(b) A family of two adults and three children are deciding whether to go on a Saturday or a Sunday; how much would they save by going on a Sunday?
(c) The total cost for a group of people was £22.90. How many adults were in the group and which day was it?

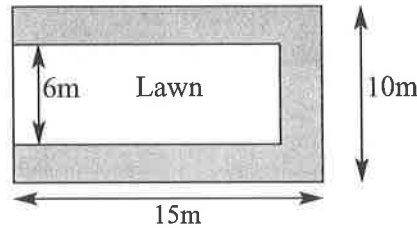
22. Look at these three signs and their meanings:



Put the correct sign into each line.

- (a) $7 + 6$ $4 + 9$
- (b) $7 - 6$ 1×1
- (c) $4 - 7$ -2
- (d) $4 - 6$ $1 - 5$

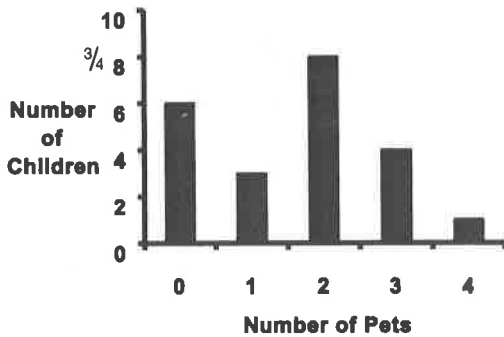
23. The diagram shows the plan of a garden with the lengths marked in metres. The path is the same width all the way round the three sides of the lawn.



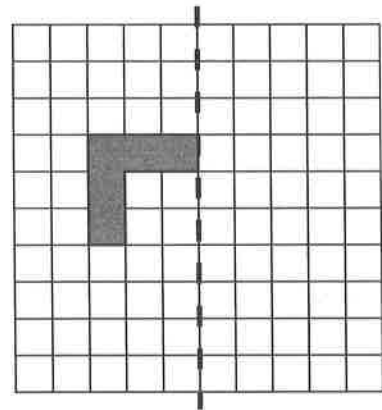
- (a) What is the width of the path?
- (b) What is the area of the lawn?
- (c) What is the area of the path?

24. The diagram below shows the number of pets owned by the members of a class. For example three children have one pet each.

- (a) How many children have no pets?
- (b) How many children have **more** than one pet?



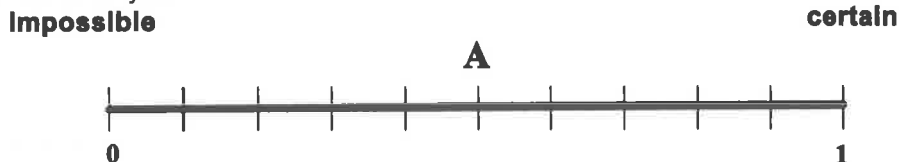
25. The shape below is reflected in the mirror line. Draw the shape in its new position.



26. Joyce has four boxes with marbles in them. The marbles are either white or black. The diagrams below show how many white marbles and how many black marbles are in each box?



Put the letters B to D on the line below to show the chance (or probability) of taking a **black marble** from each box. Box A has been done for you.



27. Two numbers are 'curdled' by adding them together and then multiplying the answer by itself.

- (a) What answer do you get if you 'curdle' 2 and 4?
- (b) What number must 5 be 'curdled' with to give the answer 81.

28. In mathematics, $3!$ is a quick way of writing $3 \times 2 \times 1$
 $4!$ is a quick way of writing $4 \times 3 \times 2 \times 1$ and so on.

- (a) $5!$ is a quick way of writing what?
- (b) Calculate the value of:
 - (i) $5!$ (ii) $3! \times 2!$ (iii) $(3 \times 2)!$ (iv) $(3!)!$ (v) $5! \div 3!$ (vi) $100! \div 98!$
- (c) If $13! = 13 \times n!$ what number does 'n' stand for?

(Questions 27 and 28 are intended to be of an original nature and are particularly important for the award of Scholarships.)