

Trinity School Croydon

ENTRANCE EXAM.

11+

SYLLABUS and SAMPLE QUESTIONS

Mathematics

**(For candidates over 11 and under 12
on 1st September of year of entry)**

Mathematics – sample paper for 11–12 year group

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

- Add: $7268 + 94 + 567$
- Subtract: $4125 - 837$
- Multiply: 374×36
- Divide: $9786 \div 7$
- (a) Write down the number eleven thousand and seventy three in figures.
(b) Write down the number ten and forty seven hundredth as a decimal.
- Ben has £68. He gives a quarter of this to his sister. How much does he have left?
- Malcolm buys 7 packets of biscuits at 73p each and 9 large cakes at £1.13 each. How much change will he receive from a £20 note?
- When two fifths of the class are absent, there are 18 pupils present. What is the total number of pupils in the class?
- If nine identical books cost £38.79 together, how much would seven books cost?
- How many minutes are there between 9.23 am and 1.06 pm?
- Each time Peter runs around the school, he travels $\frac{1}{4}$ mile. How many times would he need to go around the school to run a total of 3.75 miles?
- Simon is asked to add 15 to a number and then multiply by 3. By mistake he first multiplies by 3 and then adds 15. If he gets the answer 105 what number did he start with and what answer should he have obtained?
- If a hovercraft travels at 80 kilometres per hour how far will it travel in 1 hour and 45 minutes?
- In 3 hours a train travels 156 km. What is its speed in km/h?
- For each set of numbers write down which of the numbers is the largest and which is the smallest.
 - $\frac{4}{5}$, 0.9, 0.1, $\frac{1}{100}$, $\frac{2}{10}$
 - $\frac{3}{4}$, $\frac{1}{2}$, $\frac{4}{3}$, $\frac{4}{5}$, 1
 - 0.8, 0.803, 0.828, 0.84, 0.087
- Add together 3.7 metres and 64 cm and then subtract 2 metres 7cm. Give your answer in metres.
- A two litre bottle of lemonade costs £1.44; a one and half litre bottle costs £1.05. Which seems to be better value for money - explain how you decided on your answer.

18. In each of the sets of boxes below there is a close connection between the top numbers and the ones directly below each of them. Fill in the two gaps in each sets of boxes.

(a)

7	5	2		3
21		6	18	9

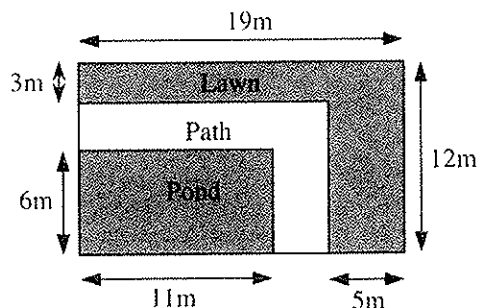
(b)

5		1	7	2
25	9	1		4

(c)

3	11	10		5
17	9		6	15

19. The diagram shows the plan of a garden with the lengths marked in metres.



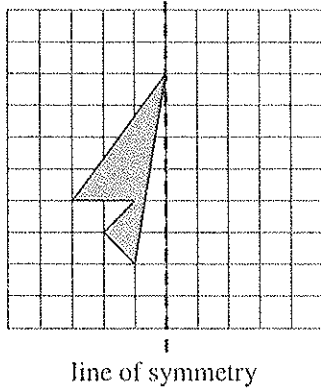
- What is the area of the pond?
- Draw a line on the diagram which splits the lawn into two rectangles. Now calculate the area of the lawn
- What is the area of the path?

20. This calculation is correct: $1467 \times 76 = 111492$

Use this result to answer these questions:

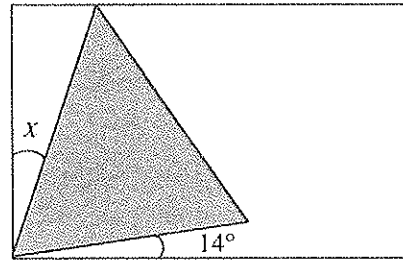
- 14.67×7.6
- $1114.92 \div 76$
- $111492 \div 0.76$

21. Complete the diagram so that it has reflective symmetry in the dotted line.

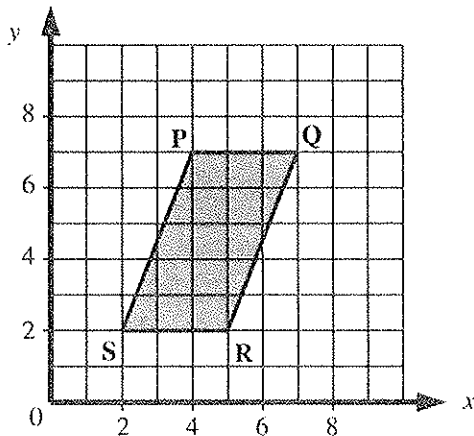


line of symmetry

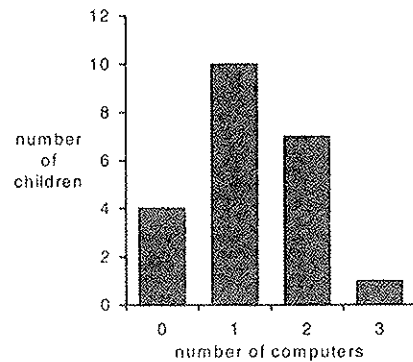
22. Here is an equilateral triangle inside a rectangle. Calculate the value of angle x .



23. (a) Write down the co-ordinates of the point P.
(b) Name the quadrilateral PQRS.



24. The diagram below shows the number of computers that members of a class had in their homes. For example, 10 children had one computer at home

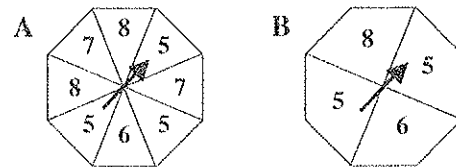


- (a) How many children had no computer at home?
(b) How many children were there in the class?
(c) What is the total number of computers owned by the whole class?

25. Here are two spinners, A and B. Each one is a regular octagon.

For each statement say whether it is true or false.

- (a) Scoring '5' is more likely on A than on B.
(b) Scoring '6' is as equally likely on A as on B.
(c) Scoring '8' is as equally likely on A as on B.



26. The timetable shows the bus times between Short Street and London Road. I must allow 6 minutes to walk from my home to the bus stop in Short Street where I will catch a bus to London Road. From there it takes 8 minutes to walk to John's house. I want to be at John's house by 2.00pm

- (a) Which bus should I catch?
(b) What time should I leave home?
(c) How long will the journey from my home to John's home take?

	Bus A	Bus B	Bus C	Bus D
Short Street	12.49	13.11	13.29	13.43
Main Road	13.02	13.24	13.42	13.56
London Road	13.14	13.36	13.54	14.08

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.)

Mathematics – Answers to sample paper for 11–12 year group

1. 7929
2. 3288
3. 13464
4. 1398
5. (a) 11073 (b) 10.47
6. £51
7. £4.72
8. 30
9. £30.17
10. 223 minutes
11. 15
12. 30, 135
13. 140 km
14. 52 km/h
15. (a) largest 0.9 smallest $\frac{1}{100}$ (b) largest $\frac{4}{3}$ smallest $\frac{1}{2}$ (c) largest 0.84 smallest 0.087
16. 2.27 m
17. The one litre bottle cost 72p per litre, whereas the $1\frac{1}{2}$ litre bottle costs 70p per litre. The $1\frac{1}{2}$ litre bottle is better value.

18. (a)

7	5	2	6	3
21	15	6	18	9

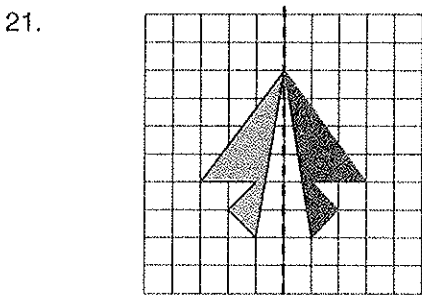
 (b)

5	3	1	7	2
25	9	1	49	4

 (c)

3	11	10	14	5
17	9	10	6	15

19. (a) 66 m^2 (b) 102 m^2 (c) 60 m^2
20. (a) 111.492 (b) 14.67 (c) 146700



22. 16°
23. (a) (4,7) (b) Parallelogram
24. (a) 4 (b) 22 (c) 27
25. (a) False (b) False (c) True
26. (a) B (b) 13.05 or 1.05pm (c) 39 mins
27. (a) 36 (b) 4
28. (a) $5 \times 4 \times 3 \times 2 \times 1$ (b) (i) 120 (ii) 12 (iii) 720 (iv) 720 (v) 20 (vi) 9900 (c) 12