



FOREST SCHOOL

13+

ENTRANCE AND SCHOLARSHIP

SAMPLE PAPERS

Sample Paper 1

Candidate Number: _____

Forest School
13+ Mathematics

Non-Calculator



TIME ALLOWED = 1 hour

INSTRUCTIONS

- **You should show your working to justify your answers.**
- **You have 1 hour to complete all the questions.**
- **Write all your answers and working in the space provided on this question paper.**
- **Check your working carefully.**
- **Calculators are NOT allowed.**

1. Calculate the following:

(a) $9784 + 8367$

(b) 576×18

Answer.....

Answer.....

(c) $121815 \div 9$

(d) 0.14^2

Answer.....

Answer.....

(e) The number halfway between
3.4 and 4.1

Answer.....

2. Calculate the following:

(a) $(-2)^3 = \dots\dots\dots$

(b) $-5 \times -5 = \dots\dots\dots$

(c) $-15 + 6 = \dots\dots\dots$

(d) $-18 \div 3 = \dots\dots\dots$

3. If $x = -2$, $y = 3$ and $z = -6$ calculate the following:

(a) $x - y \times z$

(b) $2y^2$

Answer.....

Answer.....

4. (i) Expand and simplify

(a) $3(2x + 4y) + 5(6x - y)$

(b) $3xy^2(2x + 5y)$

Answer.....

Answer.....

(ii) Factorise these expressions as far as possible

(a) $2x + 10y$

(b) $10x^3y^2 + 4x^2y$

Answer.....

Answer.....

5. When my father was 31, I was 8.
Now he is twice as old as me.
How old am I now?

Answer.....

6. Calculate, **giving your answer in simplest form:**

(i) $\frac{5}{7} + \frac{3}{4}$

(ii) $\frac{5}{7} \div \frac{10}{21}$

(iii) $16\frac{2}{3} - 12\frac{3}{4}$

(iv) $1\frac{2}{3} \times 2\frac{3}{4}$

7. (a) Karthegan scores 14 out of 40 in a test. What % is this?

Answer.....%

(b) Increase £42 by 10%.

Answer.....

(c) What is the percentage increase from £56 to £63?

Answer.....%

8. (i) What are the mean, median, mode and range of these numbers? 2,3,3,4,2,1,2,7
- (ii) Three different prime numbers have a mean of 10 and a median greater than 10. What are the numbers?
- (iii) Class A and Class B both took the same maths test. The mean of Class A was 50% and the mean of Class B was 80%.
Sophia said: "Everyone in Class B did better than everyone in Class A in the test."
Do you agree? Explain your reasoning clearly.

9. The probability that it rains on a day in April in Nodnol is 0.2

(i) What is the probability it doesn't rain?

Answer.....

(ii) How many days in April would you expect it to rain? (There are 30 days in April)

Answer.....

(iii) In 3 consecutive days in April it could rain, not rain, rain. We can write this **RNR**.

List all the different possibilities for 3 days in this way and so find the probability it rains on exactly one of the days.

Answer.....

10. In a group of children the ratio of boys to girls is 3:5.

(i) If there are 72 children in all, how many boys are there?

Answer.....

(ii) On a fruit stall the ratio of apples to bananas is 4:5 and the ratio of bananas to plums is 2:7. What is the ratio of apples to plums?

Answer.....

11. In this question use the following exchange rates.

£1 = \$ 1.20

1 Euro = 85p

(a) Is £1 worth more or less than 1.1 Euros? You must justify your answer clearly.

(b) What is £1.70 in dollars?

Answer.....

12. S is the sum of all the even numbers from 2 to 1000 inclusive.

T is the sum of all the odd numbers from 1 to 999 inclusive.

What is $S - T$? Show your working clearly.

Answer.....

- 13.** Alex throws 2 ordinary dice and adds the scores.
Grace throws 1 dice and doubles the score on the dice.

Who is more likely to score 10 or more?
Explain your reasoning clearly.

- 14.** You are given that $24 \times 36 = 864$. Use this to write down the answers to these:

(i) $12 \times 72 = \dots\dots\dots$

(ii) $2.4 \times 36000 = \dots\dots\dots$

(iii) $864 \div 0.36 = \dots\dots\dots$

15. In this regular octagon calculate the angles x , y and z .

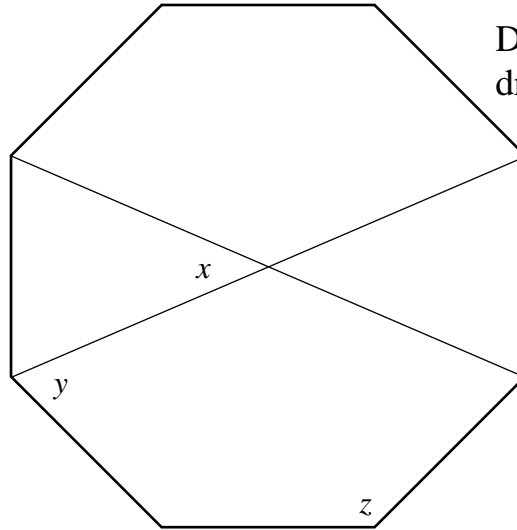


Diagram **not**
drawn to scale

Answer: $x = \dots\dots\dots$

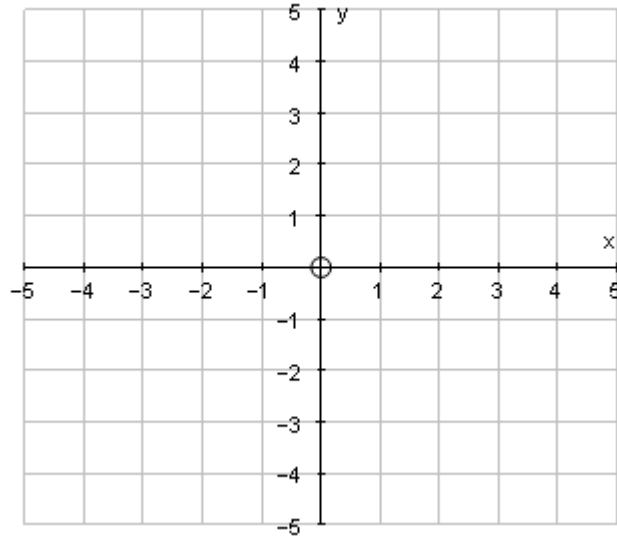
$y = \dots\dots\dots$

$z = \dots\dots\dots$

16. If 3 chickens lay 3 eggs in 3 minutes, how many eggs would 9 chickens lay in 9 minutes, laying eggs at the same rate?

Answer: $\dots\dots\dots$

17. On these axes mark clearly the points A (2,3), B (2,-4) and C (-3,-2)



(i) What is the equation of the line AB?

Answer.....

(ii) What is the area of the triangle ABC?

Answer.....

(iii) The point D fits on the diagram above and ABCD is a parallelogram. What are the coordinates of D?

Answer.....

18. The middle section of a magazine has been removed to reveal pages 34 and 87.

Page 34	Page 87
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- (i) If the above sheet containing pages 34 and 87 was removed, which pages would you then see?

Page	Page
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- (ii) How many pages does the magazine have in total?

Answer.....

END OF EXAMINATION

CHECK THROUGH ALL YOUR ANSWERS CAREFULLY



FOREST SCHOOL

13+ ENGLISH ENTRANCE and SCHOLARSHIP

PASSAGE

In this passage, Alan Bennett describes his experiences of growing up in Leeds in the 1930s.

I was five when the war started, and Monday 4th September 1939 should have been my first day at school; but that was not to be. I wish I could record our family as gathered anxiously around the wireless¹, as most were at eleven o'clock that Sunday morning, but I already knew at the age of five that I belonged to a family that without being in the least bit remarkable or eccentric yet managed never to be quite like other families. If we had been, my brother and I would have been evacuated with all the other children the week before, but Mam and Dad hadn't been able to face it. So, not quite partaking in the national mood and, as ever, unbrushed by the wings of history, Mr Chamberlain's broadcast² found us on a tram going down Tong Road into Leeds. Fearing the worst, my parents had told my brother and me that we were going out into the country that day and we were to have a picnic – something I had hitherto only come across in books. So on that fateful Sunday morning what was occupying my mind was the imminent conjunction of life with literature; that I should remember nothing of the most momentous event of the twentieth century because of the prospect of an experience found in books was, I see now, a melancholy portent.

Nor was the lesson that life was not going to live up to literature slow in coming, since the much-longed-for picnic wasn't eaten as picnics were in books, on a snowy tablecloth set in a field by a stream, but was taken on a bench in the bus station at Vicar Lane, where we waited half that day for any bus that would take us out of the supposedly doomed city.

I had read quite a few storybooks by this time, as I had learned to read quite early by dint, it seemed to me, of staring over my brother's shoulder at the comic he was reading until suddenly it made sense. Though I liked reading (and showed off at it), it was soon borne in upon me that the world of books was only distantly related to the world in which I lived. The families I read about were not like our family (no family ever quite was). These families had dogs and gardens and lived in country towns equipped with thatched cottages and mill-streams, where the children had adventures, saved lives, caught villains, and found treasure before coming home, tired but happy, to eat sumptuous teas off chequered tablecloths in low-beamed parlours presided over by comfortable pipe-smoking fathers and gentle aproned mothers, who were invariably referred to as Mummy and Daddy.

In an effort to bring this fabulous world closer to my own, more threadbare, existence, I tried as a first step substituting 'Mummy' and 'Daddy' for my usual 'Mam' and 'Dad', but was pretty sharply discouraged. My father was hot on anything smacking of social pretension; there had even been an argument at the font because my aunties had wanted my brother given two Christian names instead of plain one.

¹ Radio

² The Prime Minister's radio statement saying that war had begun

Had it been only stories that didn't measure up to the world it wouldn't have been 40
so bad. But it wasn't only fiction that was fiction. Fact too was fiction, as textbooks
seemed to bear no more relation to the real world than did the storybooks. At
school I read of the minor wonders of nature – the sticklebacks that haunted the
most ordinary pond, the newts and toads said to lurk under every stone, and the
dragonflies that flitted over the dappled surface. Not, so far as I could see, in Leeds. 45
There were owls in hollow trees, the nature books said, but I saw no owls – and
hollow trees were in pretty short supply too.



FOREST SCHOOL

13+ ENGLISH ENTRANCE and SCHOLARSHIP
1 hour

Question Paper & Answer Booklet

Candidate Number	
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Instructions to Candidates

- Write your candidate number clearly on the front of this booklet.
- The questions will assess **both** your **reading** and the **quality of your writing**. You are reminded of the need to answer the question carefully and use a good quality of written English.
- You should answer all the questions in the spaces provided. If you need additional space, there is some extra space at the back of this booklet.

Total: /30

Read the passage about Alan Bennett's life growing up in Yorkshire.

1. How does the author capture your attention in the first sentence? (2 marks)

2. What does the author say happened to most children the day the war was declared, and why did this not happen to him and his brother? [lines 7-9] (2 marks)

3. Explain in your own words what is meant by the following: (8 marks)

a) I belonged to a family that without being in the least bit remarkable or eccentric yet managed never to be quite like other families [lines 5-6]

b) *something I had hitherto only come across in books* [lines 13-14]

c) *the imminent conjunction of life with literature* [line 15]

d) *that I should remember nothing of the most momentous event of the twentieth century because of the prospect of an experience found in books was, I see now, a melancholy portent.* [lines 15-18]

4. Reread lines 19-23. How did the author expect a picnic to be, and what was it actually like? You should use quotations from the passage in your answer. (2 marks)

