



General Certificate of Secondary Education
2009

Mathematics

Module N5 Paper 1
(Non-calculator)
Foundation Tier

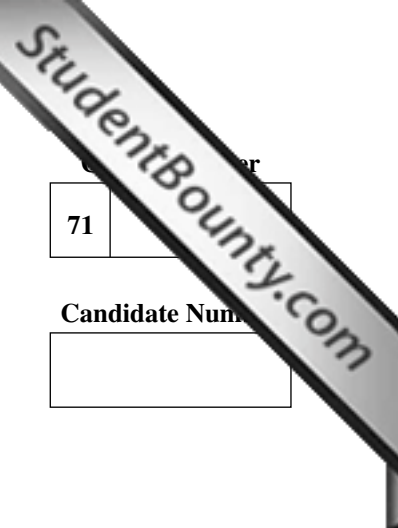
[GMN51]

MONDAY 1 JUNE

9.15 am – 10.15 am



GMN51



Centre Number
71

Candidate Number

TIME

1 hour.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all fifteen** questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

You **must not** use a calculator for this paper.

INFORMATION FOR CANDIDATES

The total mark for this paper is 56.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

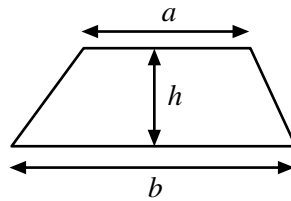
You should have a ruler, compasses, set-square and protractor.

The Formula Sheet is on page 2.

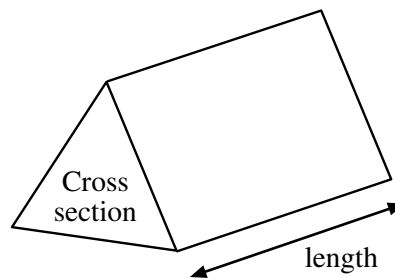
For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
Total Marks	

Formula Sheet

Area of trapezium = $\frac{1}{2} (a + b)h$



Volume of prism = area of cross section \times length



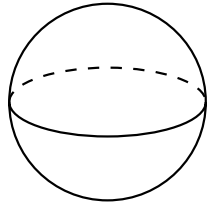
1 Choose from

cylinder cone triangular prism pyramid

sphere cuboid cube

to complete the sentences.

(a)



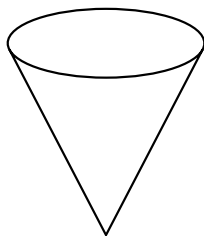
The ball is a _____. [1]

(b)



The pipe is a _____. [1]

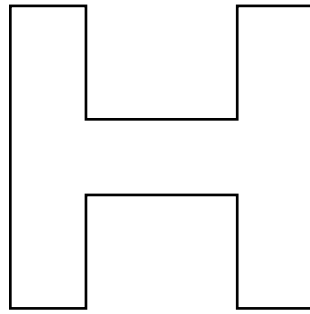
(c)



The funnel is a _____. [1]

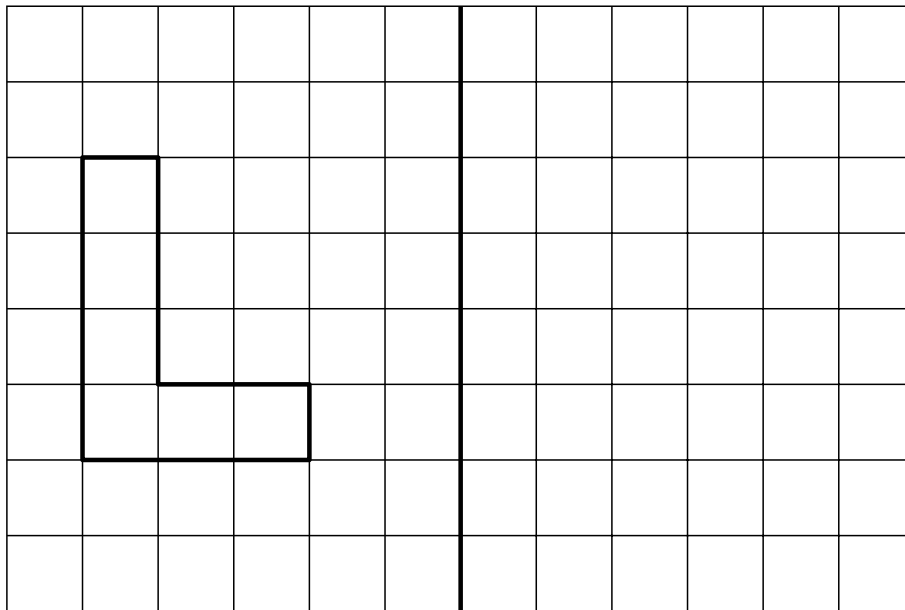
Examiner Only	
Marks	Remark

2 (a) Draw 2 lines of symmetry on the letter H below.



[2]

(b) Draw the reflection of the letter L in the mirror line.



mirror line

[2]

Examiner Only	
Marks	Remark

3 Choose from

Impossible Certain Likely Unlikely
Very unlikely Even Very likely

to describe the probability of each of the following. Explain your answers.

- (a) A baby being born is a girl.

Answer _____ because _____
_____[1]

- (b) A bus will have a puncture on the way to school.

Answer _____ because _____
_____[1]

- (c) You will eat some food this week.

Answer _____ because _____
_____[1]

4 The time (in minutes), taken to cook a roast of beef is given by the formula

$$\text{Time} = \text{twenty} \times \text{weight in pounds} + \text{forty}$$

Calculate the time taken (in minutes), to cook a roast weighing $4\frac{1}{2}$ pounds.

Answer _____ minutes [2]

Examiner Only	
Marks	Remark

5 (a) Write

(i) 5386 correct to the nearest 10

Answer _____ [1]

(ii) 5386 correct to the nearest 100

Answer _____ [1]

(b) Estimate

(i) 106×4.873

Answer _____ [2]

(ii) how many books costing £3.86 each can be bought for £18?

Answer _____ [2]

Examiner Only	
Marks	Remark

6 (a) The time in New York is 5 hours behind the time in London.

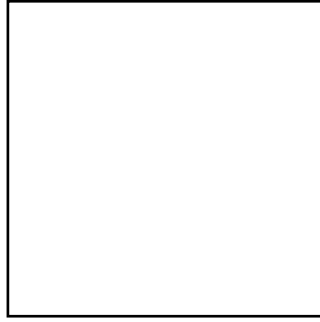
What time is it in New York when it is 3.00 pm in London?

Answer _____ [1]

(b) Beijing is 11 hours ahead of London.

What time is it in Beijing when it is 5.00 am in London?

Answer _____ [1]

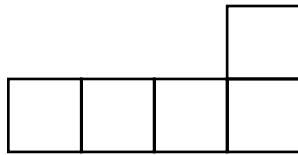


(a) Draw all the lines of symmetry on the square. [2]

(b) What is the order of rotational symmetry of the square?

Answer _____ [1]

(c) Add a one centimetre square to complete a shape with one line of symmetry.



[1]

(d) Add a one centimetre square to complete a shape which has rotational symmetry of order 2



[1]

Examiner Only	
Marks	Remark

8 (a) Calculate

(i) $8 + 6 \div 2$

Answer _____ [1]

(ii) $5 \times 4 - 3 \times 2$

Answer _____ [1]

(b) Between which two whole numbers would you expect to find the value of $\sqrt{42}$?

Answer _____ and _____ [1]

(c) Describe how to calculate 80×0.5 without using multiplication.

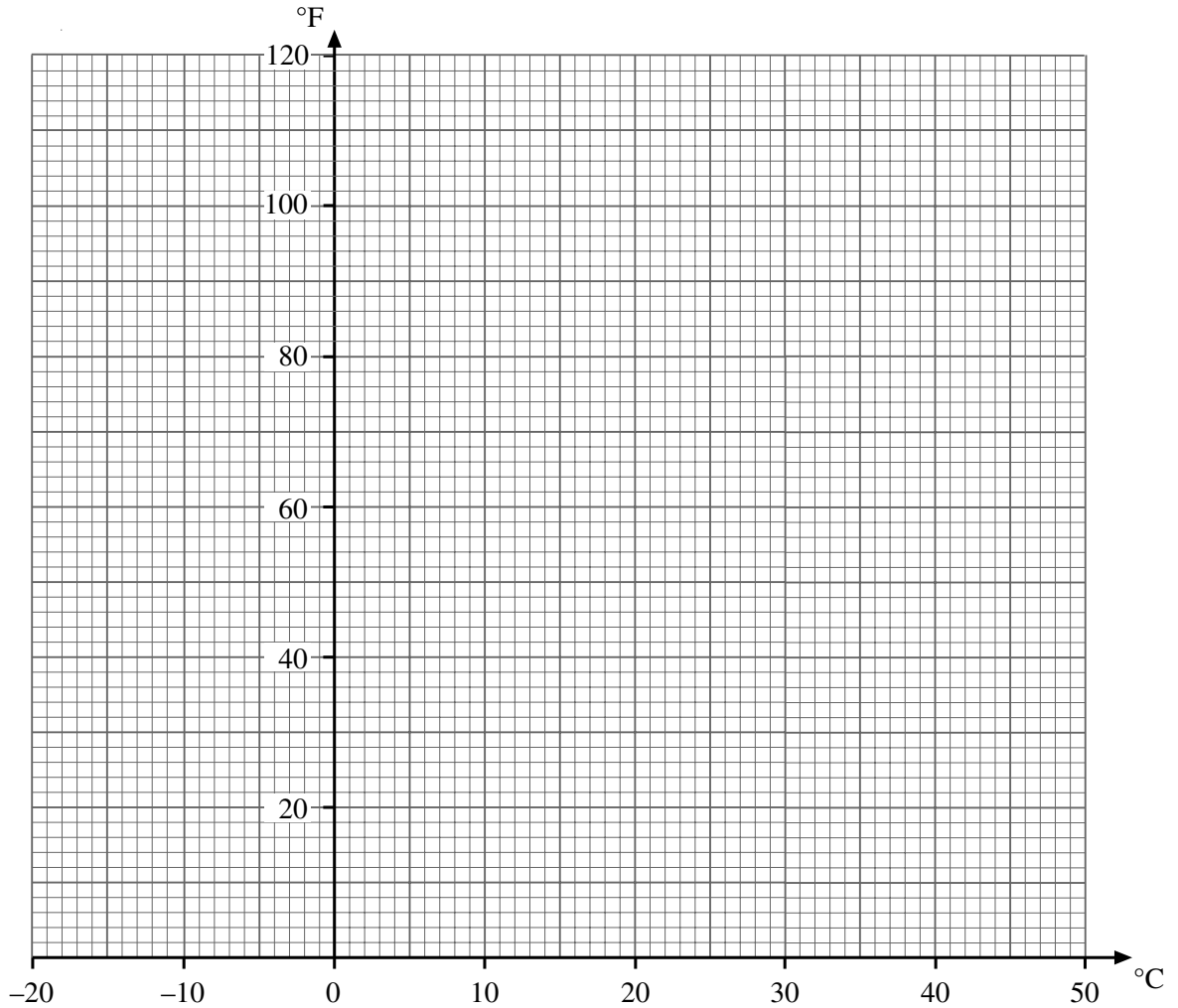
[1]

Examiner Only	
Marks	Remark

9 The table shows temperatures in °C and their equivalent in °F.

Temperature °C	-10	0	20	40
Temperature °F	14	32	68	104

(a) Plot the points on the graph paper below and draw the conversion graph.



(b) Use the conversion graph to find

(i) the °F temperature equivalent to 30 °C,

Answer _____ °F [1]

(ii) the °C temperature equivalent to 20 °F.

Answer _____ °C [1]

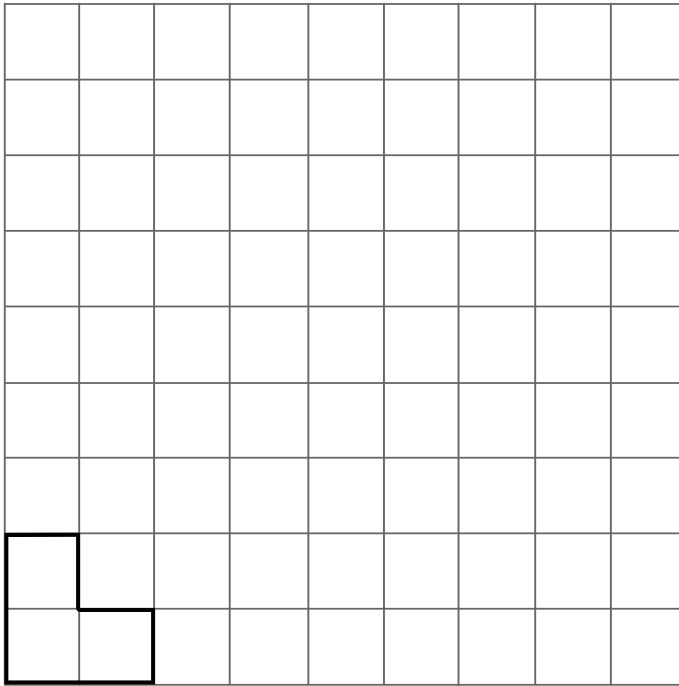
[3]

Examiner Only	
Marks	Remark

[Turn over

Examiner Only	
Marks	Remark

10 (a) Enlarge the shape by a scale factor 3 on the grid below.



[2]

(b) How many times bigger is the area of the enlarged shape than the area of the original shape?

Answer _____ [2]

11 Mary hears Ian say

“Every time you subtract a square number from a larger square number the answer is always an odd number.”

Mary thinks that this is not always true. Write down two different square numbers to show that Mary is correct.

Answer _____ and _____ [2]

- 12 A spinner can point to the colours Red, Green, Yellow, Blue or Black. The probabilities are given in the table.

Colour	Red	Green	Yellow	Blue	Black
Probability	0.3	0.15	0.2	0.25	0.1

- (a) What colour is the spinner least likely to point to?

Answer _____ [1]

- (b) What colour is the spinner most likely to point to?

Answer _____ [1]

- (c) If the spinner is spun 600 times, estimate how many times you would expect the colour to be Green.

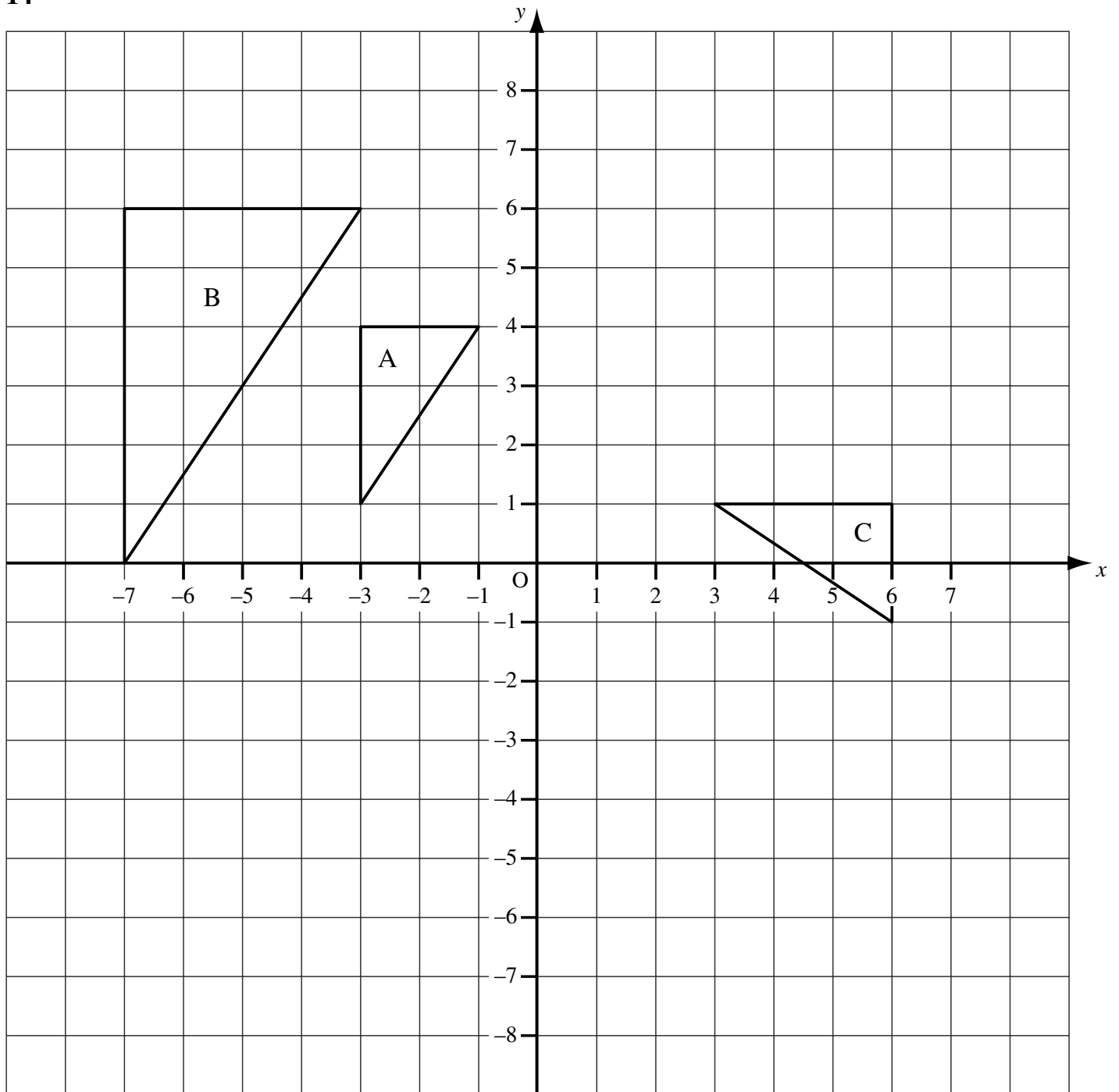
Answer _____ [2]

-
- 13 Prove that the square of any even number is a multiple of 4

[2]

Examiner Only

Marks **Remark**



- (a) (i) Describe fully the single transformation which takes triangle A to triangle B.

Answer: _____ [3]

- (ii) Describe fully the single transformation which takes triangle A to triangle C.

Answer: _____ [3]

- (b) Draw the image of A under a translation $\begin{pmatrix} 1 \\ -5 \end{pmatrix}$. [2]

Examiner Only	
Marks	Remark

15 Make g the subject of the formula $v = u + gt$.

Examiner Only	
Marks	Remark

Answer $g =$ _____ [2]

THIS IS THE END OF THE QUESTION PAPER
