



Rewarding Learning

General Certificate of Secondary Education  
2011

Centre Number

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Candidate Number

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## Mathematics

Module N5 Paper 2  
(With calculator)  
Foundation Tier  
[GMN52]



GMN52

MONDAY 6 JUNE  
2.45 pm–3.45 pm

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

### 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.

### 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 calculator, ruler, compasses, set-square and protractor.

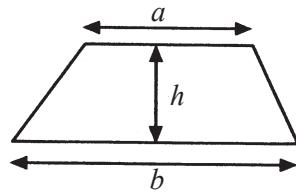
The Formula Sheet is on page 2.

Total Marks	

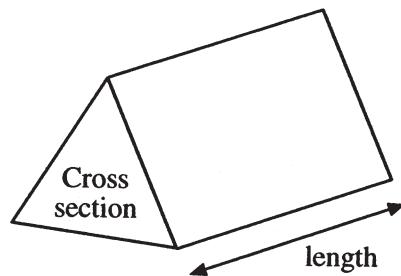


# Formula Sheet

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



**Volume of prism** = area of cross section  $\times$  length



1 (a) Draw a line of symmetry on the diagram below.



[1]

(b) (i) In the space below draw a sketch of a square-based pyramid.

[1]

(ii) Using your pyramid, work out the answer to the following calculation.

Number of faces + number of vertices – number of edges

Show your working.

Answer \_\_\_\_\_ [2]

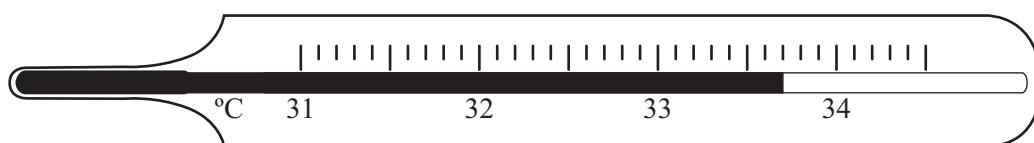
Total Question 1	

**Turn over**

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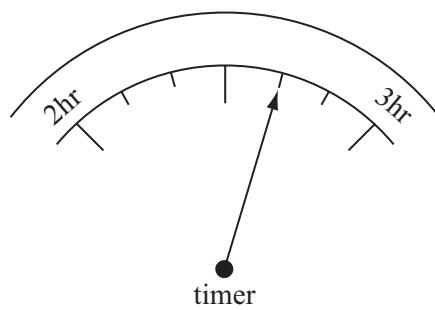
2 (a) Write down the temperature shown on the thermometer.



Examiner Only	
Marks	Remark

Answer \_\_\_\_\_ °C [1]

(b) Write down the reading from the timer.

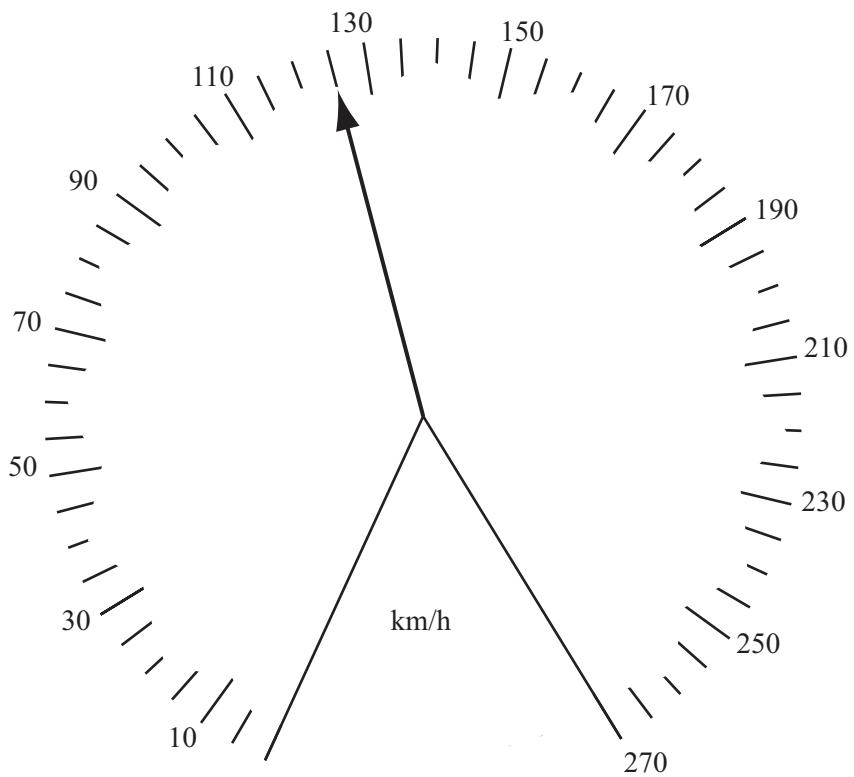


Answer \_\_\_\_ hrs \_\_\_\_ mins [1]



(c) The speedometer below shows the speed in km/h.

Examiner Only	
Marks	Remark



(i) What speed is shown?

Answer \_\_\_\_\_ km/h [1]

(ii) On the speedometer draw an arrow to show a speed of 158 km/h.  
[1]

(iii) What is the difference between the speed in (i) and the speed in (ii)?

Total Question 2

Answer \_\_\_\_\_ km/h [1]

**[Turn over]**



3 The Print Pot advertise printing costs as

Examiner Only	
Marks	Remark

$$\text{Cost (pence)} = 35 \times \text{colour prints} + 10 \times \text{black and white prints}$$

(a) Gemma gets 3 colour prints and 2 black and white prints.

Work out the cost in pounds (£).

Answer £ \_\_\_\_\_ [2]

(b) The Fast Print advertise their printing costs as

$\text{Cost (pence)} = 30 \times \text{number of prints} + 90$
--

How much would Gemma have paid in The Fast Print?

Answer £ \_\_\_\_\_ [2]

Total Question 3

4 The following temperatures were recorded in °C over a period of time

12, -2, 7, -9, 13, -14, 6, -10

From the list write down

(a) the warmest temperature, Answer \_\_\_\_\_ °C [1]

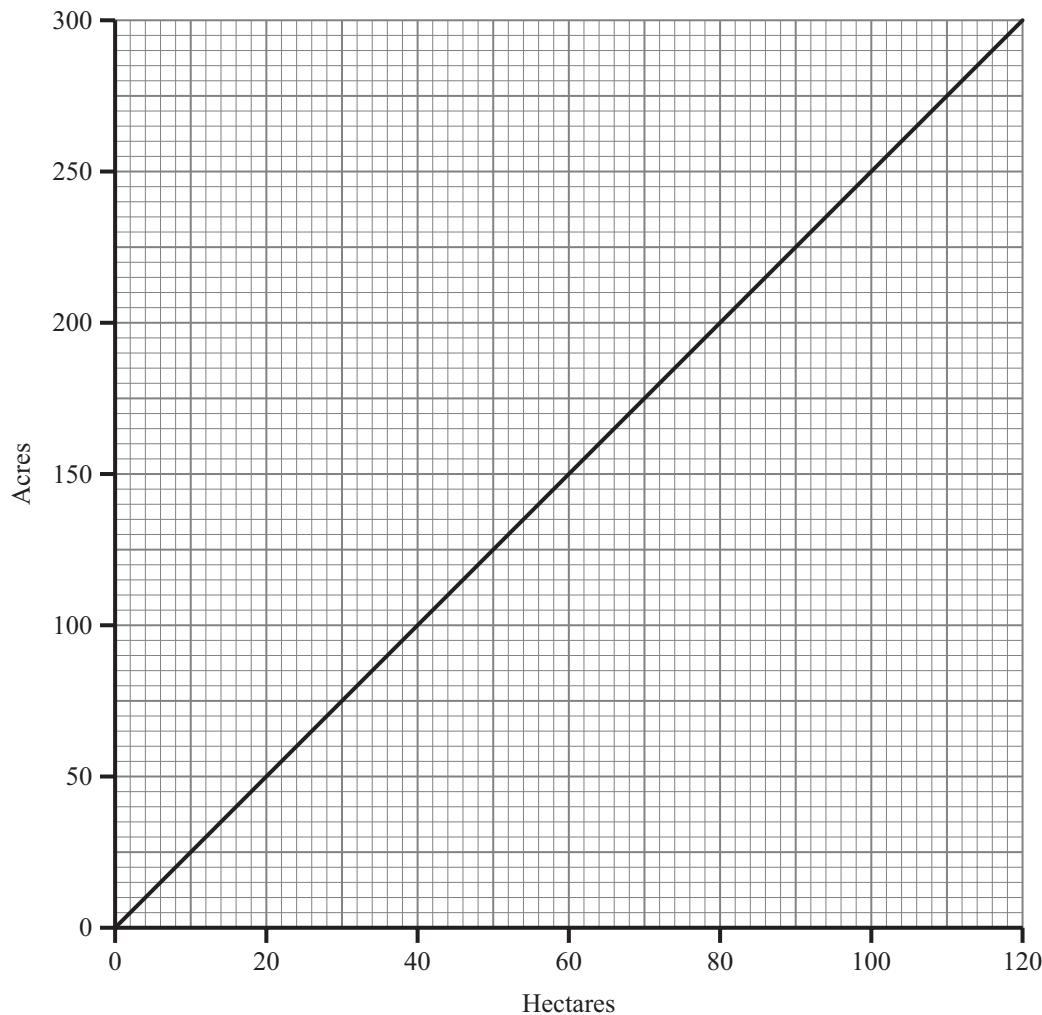
(b) the coldest temperature. Answer \_\_\_\_\_ °C [1]

Total Question 4



5 Land area can be measured in hectares or in acres.

The conversion graph shows how to convert between hectares and acres.



(a) How many hectares are in 220 acres?

Answer \_\_\_\_\_ hectares [1]

(b) Work out the number of acres in 150 hectares.

Answer \_\_\_\_\_ acres [1]

(c) Complete the sentence

An acre is \_\_\_\_\_ times greater than a hectare.

[1]

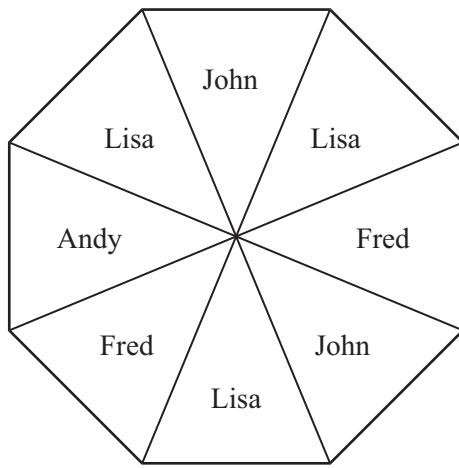
Total Question 5

[Turn over]



6 The spinner below is a regular octagon. It can land on any name.

Examiner Only	
Marks	Remark



(a) Which name is the spinner most likely to land on?

Answer \_\_\_\_\_ [1]

(b) Which two names is the spinner equally likely to land on?

Answer \_\_\_\_\_, \_\_\_\_\_ [1]

(c) Write down a name which the spinner **cannot** land on.

Answer \_\_\_\_\_ [1]

(d) Is the spinner more likely to land on a boy's or girl's name?

Answer \_\_\_\_\_ [1]

(e) The spinner is spun 200 times. How many times would you expect it to land on the name Lisa?

Answer \_\_\_\_\_ [2]

Total Question 6



7

**A H J N P S W X**

Examiner Only	
Marks	Remark
Total Question 7	

(a) Write down the two letters from above which have exactly **one** line of symmetry.

Answer \_\_\_\_\_, \_\_\_\_\_ [1]

(b) Write down the two letters from above which have rotational symmetry of order 2 **and** two lines of symmetry.

Answer \_\_\_\_\_, \_\_\_\_\_ [2]

(c) Write down the two letters from above which have rotational symmetry of order 2 **and** no lines of symmetry.

Answer \_\_\_\_\_, \_\_\_\_\_ [2]

8 Put brackets in the following statements to make them true

(a)  $5 \times 4 + 3 - 2 = 33$  [1]

(b)  $9 - 3 \times 2 + 7 = 54$  [1]

Total Question 8	

**[Turn over**



9 800 tickets numbered 1 to 800 are sold for a raffle.

(a) What is the probability that the winning ticket has a number greater than 550?

Answer \_\_\_\_\_ [2]

(b) The probability that a male has the winning ticket may not be  $\frac{1}{2}$ . Explain why.

Answer \_\_\_\_\_

\_\_\_\_\_ [1]

Examiner Only	
Marks	Remark

Total Question 9



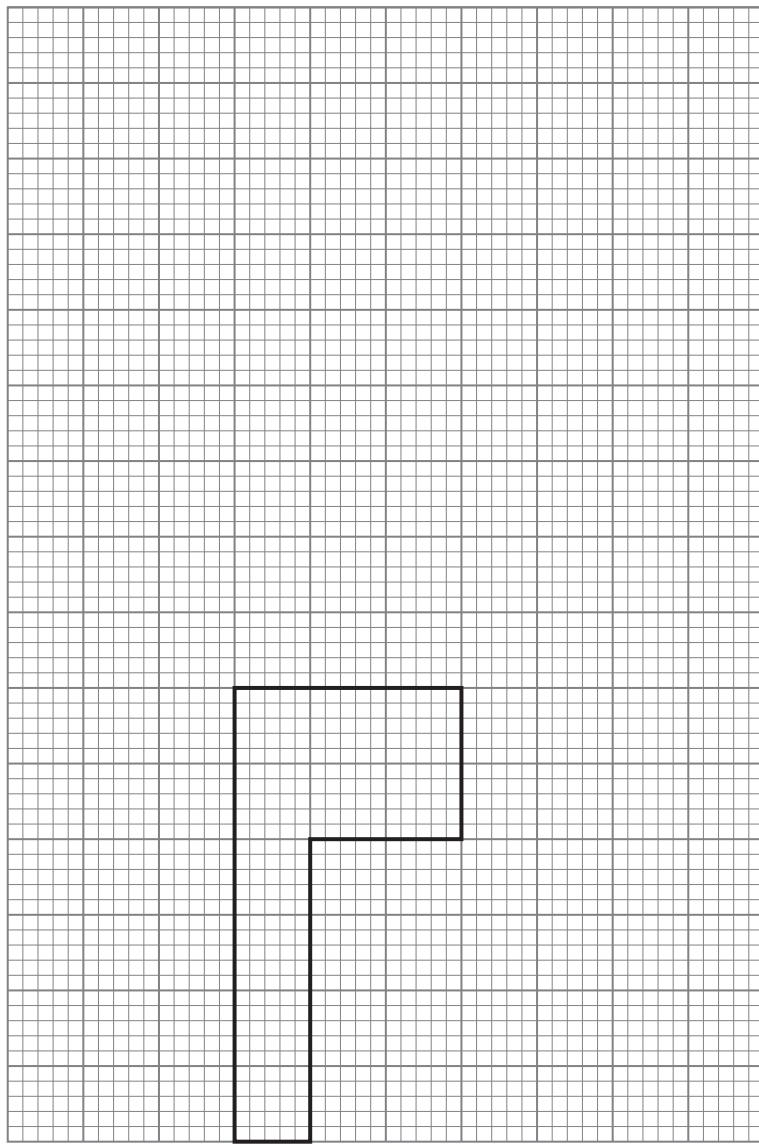
10 (a) What 5-sided shape has rotational symmetry of order 5?

Answer \_\_\_\_\_ [2]

Examiner Only

Marks	Remark

(b) Enlarge the shape below using a scale factor of 2



[2]

Total Question 10

[Turn over

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11 The exchange rate for £ to euro was £1 = €1.15  
 Jim bought a pair of jeans which cost €90  
 How much did the jeans cost in £?

Examiner Only	
Marks	Remark
Total Question 11	

Answer £ \_\_\_\_\_ [2]

12 Tony selects a ball at random from a bag containing 8 blue, 1 green and 4 white balls.

What is the probability that Tony selects a

(a) green ball?

Answer \_\_\_\_\_ [1]

(b) white ball?

Answer \_\_\_\_\_ [1]

(c) ball which is **not** white?

Answer \_\_\_\_\_ [1]

(d) red ball?

Answer \_\_\_\_\_ [1]

(e) blue or a green ball?

Answer \_\_\_\_\_ [2]

Total Question 12	

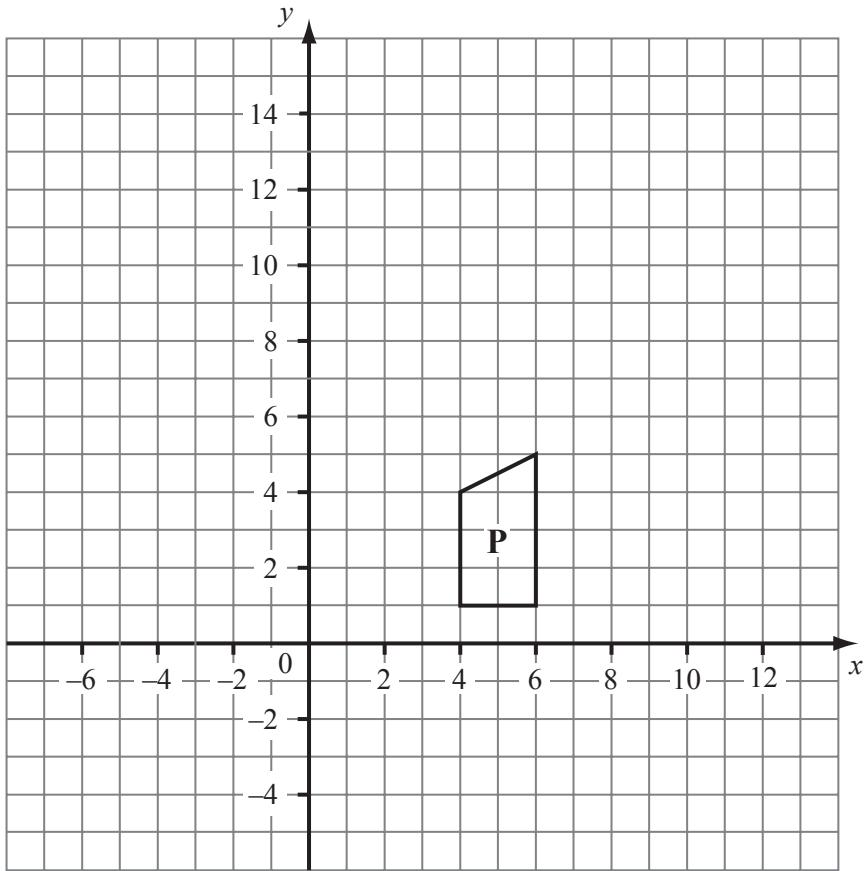


13

Examiner Only

Marks

Remark



Shape P is shown on the grid.

(a) Reflect P in the  $y$  axis.

[1]

(b) Draw the image of shape P after a translation  $\begin{pmatrix} -3 \\ 5 \end{pmatrix}$ .

[2]

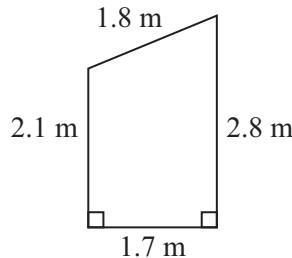
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Total Question 13

Turn over



14



Examiner Only	
Marks	Remark
Total Question 14	

The diagram represents the side view of a garden shed with a sloping roof. Calculate the area of the side view of the shed.

Give your answer to an appropriate degree of accuracy.

Answer \_\_\_\_\_  $\text{m}^2$  [3]

15 To calculate the amount of income tax on his earnings, Tom used the following information.

Total earnings = £24,265

Tax free personal allowance = £5,895

10% tax on first £3,200 of taxable income

28% tax on taxable income from £3,201 to £42,600

What total amount of income tax should he have calculated?

Total Question 15

Answer £ \_\_\_\_\_ [4]



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**THIS IS THE END OF THE QUESTION PAPER**

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