



General Certificate of Secondary Education  
January 2012

Centre Number

71

Candidate Number

## Mathematics

Module N5 Paper 2  
(With calculator)  
Foundation Tier

[GMN52]

MONDAY 16 JANUARY  
10.45 am–11.45 am



### 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 fourteen** 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.

For Examiner's  
use only

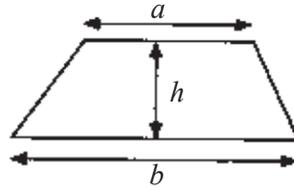
Question Number	Marks
1	
2	
3	
4	
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11	
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13	
14	

Total  
Marks

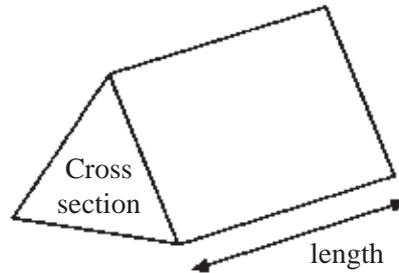
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# Formula Sheet

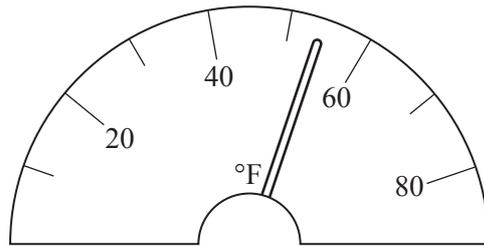
**Area of trapezium** =  $\frac{1}{2}(a+b)h$



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

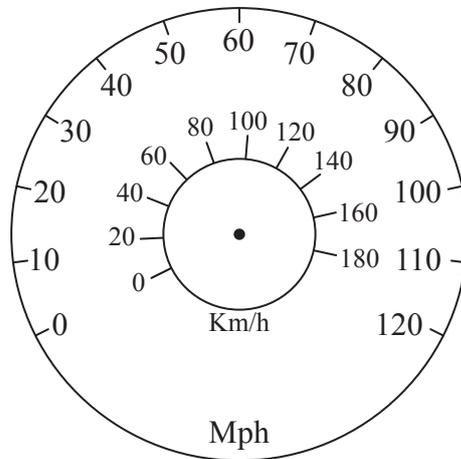


- 1 (a) Estimate the reading shown on the dial.



Answer \_\_\_\_\_ °F [1]

- (b) Use the dial shown to estimate what 45 mph would be in km/h.

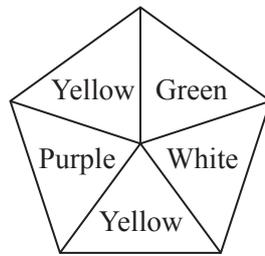


Answer \_\_\_\_\_ km/h [1]

Examiner Only	
Marks	Remark



3 (a)

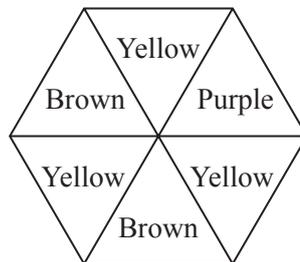


First Spinner

On what colour is the spinner most likely to land?

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

(b)



Second Spinner

On what colour is this spinner least likely to land?

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

- (c) Paul thinks that he has more of a chance of getting Purple on the second spinner than on the first spinner because it has only 3 colours while the first has 4 colours.

Explain why Paul is wrong.

\_\_\_\_\_

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

Examiner Only	
Marks	Remark

- 4 (a) Jim bought a new television on Hire Purchase.

He paid £120 deposit and £45 per month for 9 months.

How much did he pay in **total** for the television?

Answer £ \_\_\_\_\_ [3]

(b)

Please send me	Number	Price	Sub Total
A105 Standard Rice Cooker		£24.99	
A115 Large Rice Cooker		£31.99	
A292 Best Rice Cookery Book		£5.49	
A293 Extra Copy Cookery Book		£8.49	
Courier delivery			5.75
Total £			

Complete the mail order form for two Large Rice Cookers and one Best Rice Cookery Book, including Courier delivery. [3]

- (c) Jenny works in her local shop.

She earns £6.50 per hour, Monday to Friday.

She earns “time and a half” for weekend work.

In a particular week, Jenny worked 12 hours altogether from Monday to Friday. She also did 4 hours weekend work.

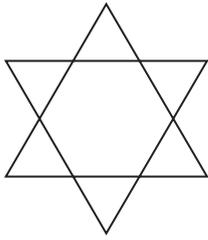
How much did she earn in total?

Answer £ \_\_\_\_\_ [4]

Examiner Only	
Marks	Remark

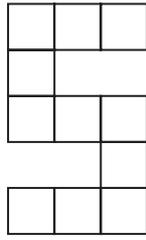
5 What is the order of rotational symmetry for each of these shapes?

(a)



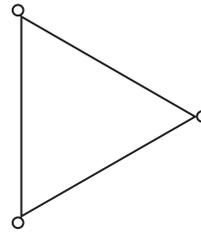
Order \_\_\_\_\_

(b)



Order \_\_\_\_\_

(c)



Order \_\_\_\_\_

[3]

6 In a raffle 300 tickets are sold.

There is only one prize.

Mr Bond buys 8 tickets, Mrs Bond buys 15 tickets and their children, Jack and Jill, buy 3 tickets each.

(a) What is the probability that Mrs Bond wins the prize?

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

(b) What is the probability that none of the family wins the prize?

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

Examiner Only	
Marks	Remark

7 (a) Draw a quadrilateral with rotational symmetry of order 2.

[1]

(b) Draw a different type of quadrilateral which also has rotational symmetry of order 2.

[1]

Examiner Only	
Marks	Remark

8 The total cost of a car is given by the formula

$$\text{Total cost} = \text{deposit} + \text{monthly payment} \times 12$$

(a) Colin pays a deposit of £2 500 and his monthly payment is £200.

Find the total cost of his car.

Answer £ \_\_\_\_\_ [2]

(b) Sylvia pays no deposit and her monthly payment is £500.

What is the total cost of Sylvia's car?

Answer £ \_\_\_\_\_ [1]

(c) In your own words, explain what the 12 in the formula stands for.

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

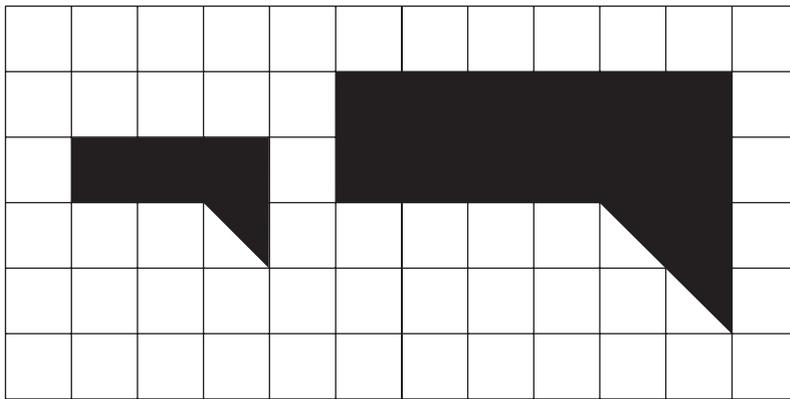
(d) The total cost of Hugh's car is £8 000 and his deposit is £2 600.

Work out Hugh's monthly payment.

Answer £ \_\_\_\_\_ [3]

Examiner Only	
Marks	Remark

9



SHAPE A

SHAPE B

Shape B is the image of shape A after an enlargement.

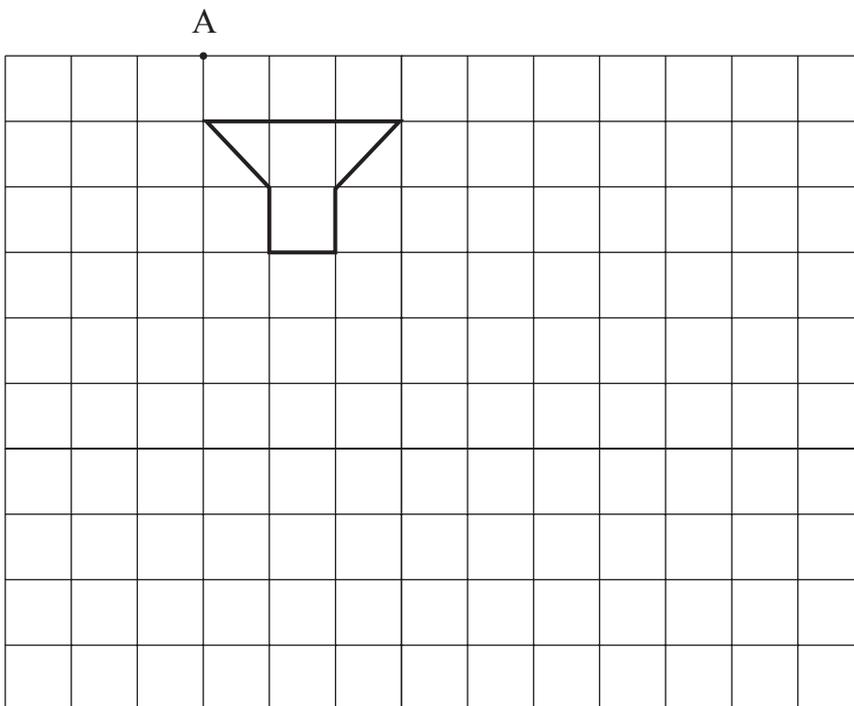
(a) Write down the scale factor of the enlargement.

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

(b) How many times bigger is the area of shape B than the area of shape A?

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

(c) Draw an enlargement of the shape below using a scale factor of 3 and centre A.



[3]

Examiner Only	
Marks	Remark

10 Two pots, A and B, contain numbered discs that are all the same size.



(a) Julie takes a disc at random from each pot.

She adds the numbers on the two discs.

Complete the table to show all the possible scores.

		Pot A				
	+	11	13	15	17	19
Pot B	12	23	25			
	14	25				
	16					
	18					

[2]

(b) Find the probability of Julie scoring less than 29.

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

Examiner Only	
Marks	Remark

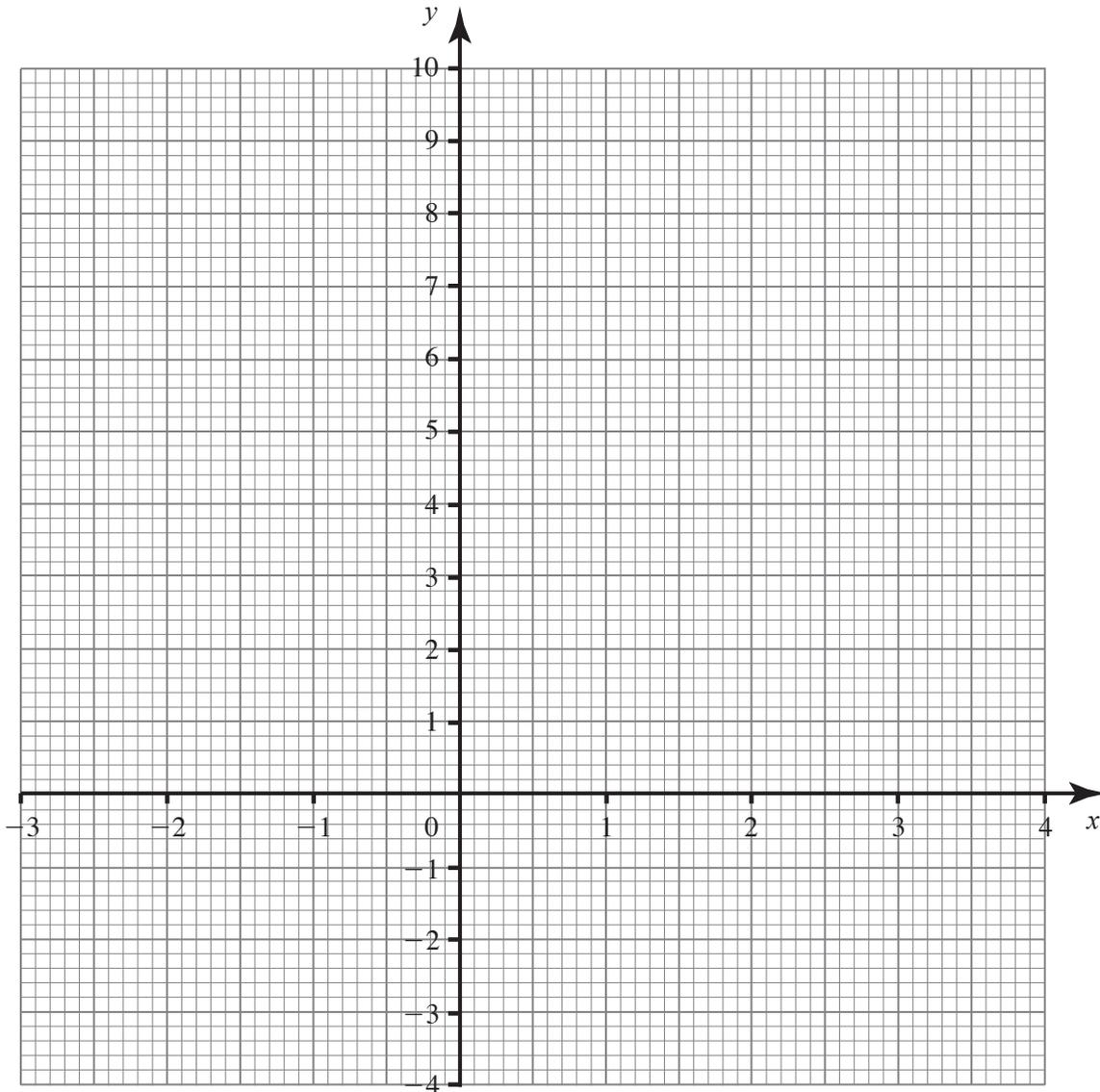


14 (a) Complete the table for  $y = 2x^2 - 2x - 3$

$x$	-2	-1	0	1	2	3
$y$		1	-3	-3		9

[2]

(b) Draw the graph of  $y = 2x^2 - 2x - 3$  for  $x = -2$  to  $x = 3$  on the grid.



[2]

Examiner Only

Marks	Remark

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

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