

General Certificate of Secondary Education 2009

Mathematics



Module N2 Paper 1 (Non-calculator) Foundation Tier

[GMN21]

MONDAY 18 MAY 1.30 pm – 2.15 pm





45 minutes.

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 thirteen** 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 44.

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		
Total Morelia		

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Formula Sheet

Volume of prism = area of cross section × length



1	Write down the next two terms in the sequence			
	12, 11, 9, 6,,			
	Answer,[2]			
2				
	A cuboid has volume 120 cm^3 . The length of the cuboid is 8 cm. The breadth is 5 cm.			
	Find the height of the cuboid.			
	Answer cm [2]			
4558		[Tur	n over	

3 During a short period the colours of cars passing a school were noted. The results were as follows:

Blue	15
Green	10
White	9
Black	5
Red	21

Examiner Only Marks Remar

Draw a pie chart to illustrate this information.



4 (a) Complete the table for y = 3x - 1

x	-1	1	3	4	
y = 3x - 1		2	8	11	[]

(**b**) Hence draw the graph of y = 3x - 1



Examiner Only Marks Remar

[Turn over

5	Calculate		Examiner Only Marks Remark
	(a) $5^2 \times 2^3$		
		Answer	[2]
	(b) 0.2×0.4		
	(0) 0.2 × 0.1		
		Answer	[1]
	(c) $4.7 - 1.93$		
		Answer	[1]
	(d) $\frac{7}{12} - \frac{1}{6}$		
	12 0		
		Answer	[2]

6 The table shows the RRP (recommended retail price) and the sale price of some products in Jack's Discount Store.



Examiner Only Marks Rema

(a) Factorise $p^2 + 7p$ 7 Examiner Only Marks Remark Answer _____ [1] (b) The *n*th term of a sequence is $n^2 - 3$ Which term of the sequence will equal 78? Answer _____ [2]

8		Examin	er Only
	A Diagram not	Marks	Remark
	drawn accurately		
	$E \frown O \rightarrow B$		
	•		
	D C		
	ABCDE is a regular pentagon with centre O.		
	Calculate the size of		
	(a) angle AOB		
	Answer° [2]		
	(b) angle ABC		
	Answer° [2]		
		<u> </u>	
0	On holiday Mark drinks 3/4 of a bottle of water each day		
,	What is the least number of bottles Mark will have to buy for a 9 day		
	holiday?		
	Answer [3]		
4558		[Tur	n over

10 The heights of 100 students were recorded.

Height, <i>h</i> , in cm	Frequency
$130 \le h < 135$	15
$135 \le h < 140$	25
$140 \le h < 145$	26
$145 \le h < 150$	21
$150 \le h < 155$	8
$155 \le h < 160$	5

Draw a frequency polygon for the data.



Examiner Only Marks Remark



11	Write 80 as a product of its prime factors giving your answer in index form.	Examiner Only Marks Remark
	Answer [3]	
12	Ben is x years old. His brother Dan is 5 years younger. In 3 years' time the sum of their ages will be 15.	
	(a) Write an equation in terms of x using the sum of their ages in 3 years' time.	
	Answer [2]	
	(b) Solve the equation to find Ben's age now.	
	Answer [1]	
4558		[Turn over

13 The percentage marks in a class test were recorded in the following table:

Marks (%)	Frequency	
55–59	1	
60–64	1	
65–69	2	
70–74	5	
75–79	9	
80-84	5	
85-89	2	

Calculate an estimate for the mean mark.

Answer _____% [4]

Examiner Only Marks

Rem

THIS IS THE END OF THE QUESTION PAPER

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