

General Certificate of Secondary Education 2011

Mathematics



Module N2 Paper 2 (With calculator) Foundation Tier

[GMN22]

TUESDAY 31 MAY 10.30 am–11.15 am



TIME

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 twelve** questions.

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

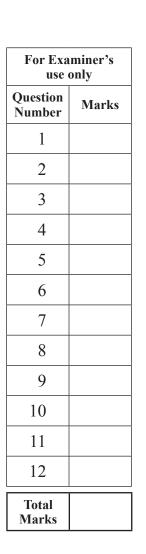
INFORMATION FOR CANDIDATES

The total mark for this paper is 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 calculator, ruler, compasses, set-square and protractor.

The Formula Sheet is on page 2.

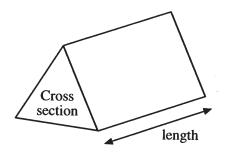


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Formula Sheet

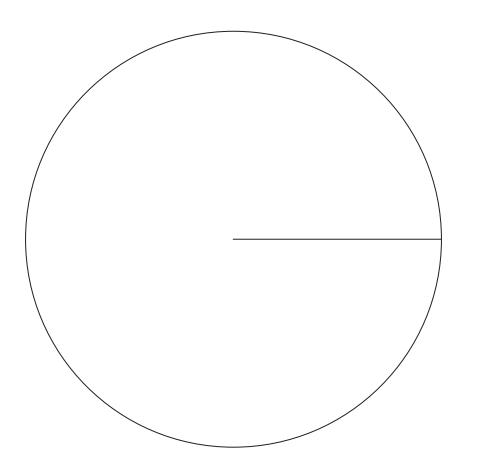
Volume of prism = area of cross section × length



1 The number of buns sold in a bakery was recorded as follows.

Cream	16
Fruit	10
Jam	9
Chocolate	25

Draw a pie chart to illustrate this information.





[Turn over

Examiner Only Marks Remark (a) A rectangular carton holds apple juice. The base of the carton has Examiner Only Marks Remark dimensions of 6 cm and 11 cm. The height of the juice in the carton is 10.5 cm above the base. $(1 \text{ cm}^3 = 1 \text{ ml})$. What is the volume of juice left in the carton in millilitres? Apple Juice 10.5 cm 6 cm 11 cm Answer _____ ml [2] (b) John pours himself a glass of juice. The volume in the carton is now 412.5 ml. What is the height of the juice above the base now? Answer _____ [3]

2

3 (a) Calculat

3	(a) Calculate		Examiner Only Marks Remark
	(i) the cube root of 64		
		Answer [1]	
	(ii) $3.3^2 + 6^3$		
		Answer [1]	
	(b) Write 23.35 correct to three significant f		
		Answer [1]	
4	And rew earns £900 a month. He spends $\frac{1}{4}$ computer games. What fraction of the £900 f		
		Answer [4]	

[[]Turn over

5	An	adult ticket for a show costs $\pounds a$.	Examine Marks	er Only Remark
	A cl	hild ticket costs £4 less than an adult ticket.		
	(a)	Write down an expression, in terms of a , for the cost of a child ticket.		
		Answer £ [1]		
	(b)	Daisy buys two adult tickets and three child tickets. The total cost is $\pounds 23$.		
		(i) Use this information to write down an equation in terms of <i>a</i> .		
		Answer [2]		
		(ii) Solve your equation to find the cost of an adult ticket.		
		Answer £ [2]		
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6 The increase in test scores of 100 children over a period of time was recorded.

Increase in test scores (w)	0 <i><w< i="">≤5</w<></i>	5 <i><w< i="">≤10</w<></i>	10 <i><w< i="">≤15</w<></i>	15 <i><w< i="">≤20</w<></i>	20 <i><w< i="">≤25</w<></i>
Frequency	16	36	22	14	12

Show this information on a grouped frequency diagram.

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[3]

Examiner Only

Marks Remark

[Turn over

7	(a)		A ten pence piece has a radius of 1.4 cm. Calculate the circumference of this coin.	Examiner Only Marks Remar	k
		© The Royal Mint			
			Answer cm [2]		
	(b)		Explain why the sum of the interior angles in a regular pentagon is 540°.		
			[2]		
8	A ne	ew bicycle is price	d at £240		
		sale it is reduced l culate the sale pric			
			Answer £ [3]		

9	A ramp is placed next to a step to allow wheelchair access.	Examiner Only Marks Remark
	The ramp is 16 cm high and reaches 85 cm from the step.	
	Calculate the sloping length, $r \text{cm}$, of the ramp to the edge of the step.	
	r cm 16 cm 85 cm	
	Answer cm [3]	
10	(a) At birth a baby boy weighed 4 kg. Six weeks later he weighed 7 kg.	
	What was the percentage increase in his weight?	
	Answer % [2]	
	(b) Colin leaves £4800 in the bank for two years.	
	It earns compound interest of 3% per year.	
	Calculate the total amount Colin has in the bank at the end of the two years.	
	Answer £ [2]	
6388		[Turn over

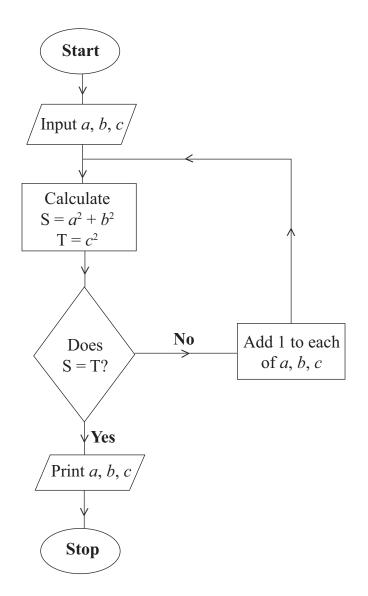
11 One solution of $x^2 + 4x = 50$ lies between 5 and 6

Use the method of **trial and improvement** to find this solution correct to one decimal place.

Show all your working.

Answer x = [3]

Examiner Only Marks Remark



Examiner Only Marks Remark

Starting with a = 2, b = 9, c = 10 use the flow chart to find the values printed.

а	b	С	S	Т		
2	9	10				
Answ	ar a =			, <i>b</i> =	, <i>c</i> =	[3]

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