



Rewarding Learning

Centre Number

71	
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Candidate Number

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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.

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

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.

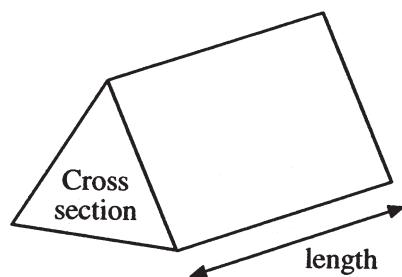
You should have a calculator, ruler, compasses, set-square and protractor.

The Formula Sheet is on page 2.



Formula Sheet

Volume of prism = area of cross section \times length



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

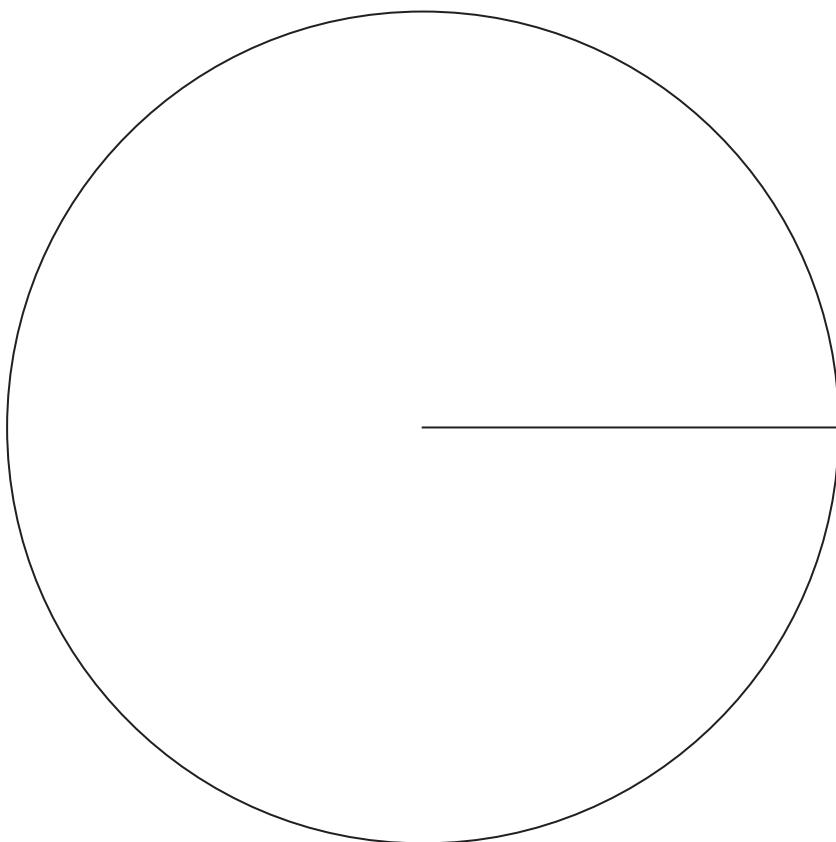
Cream	16
Fruit	10
Jam	9
Chocolate	25

Examiner Only

Marks

Remark

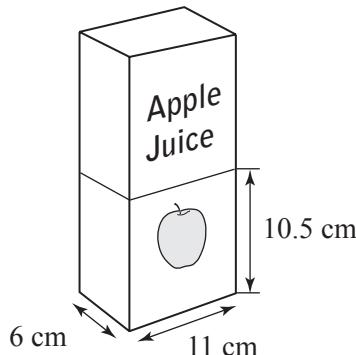
Draw a pie chart to illustrate this information.



[4]

2 (a) A rectangular carton holds apple juice. The base of the carton has 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?



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]

3 (a) Calculate

(i) the cube root of 64

Answer _____ [1]

(ii) $3.3^2 + 6^3$

Answer _____ [1]

(b) Write 23.35 correct to three significant figures.

Answer _____ [1]

4 Andrew earns £900 a month. He spends $\frac{1}{4}$ of this money on rent and $\frac{1}{5}$ on computer games. What fraction of the £900 has he left?

Answer _____ [4]

5 An adult ticket for a show costs £ a .

A child 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 £23.

(i) Use this information to write down an **equation** in terms of a .

Answer _____ [2]

(ii) Solve your equation to find the cost of an adult ticket.

Answer £ _____ [2]

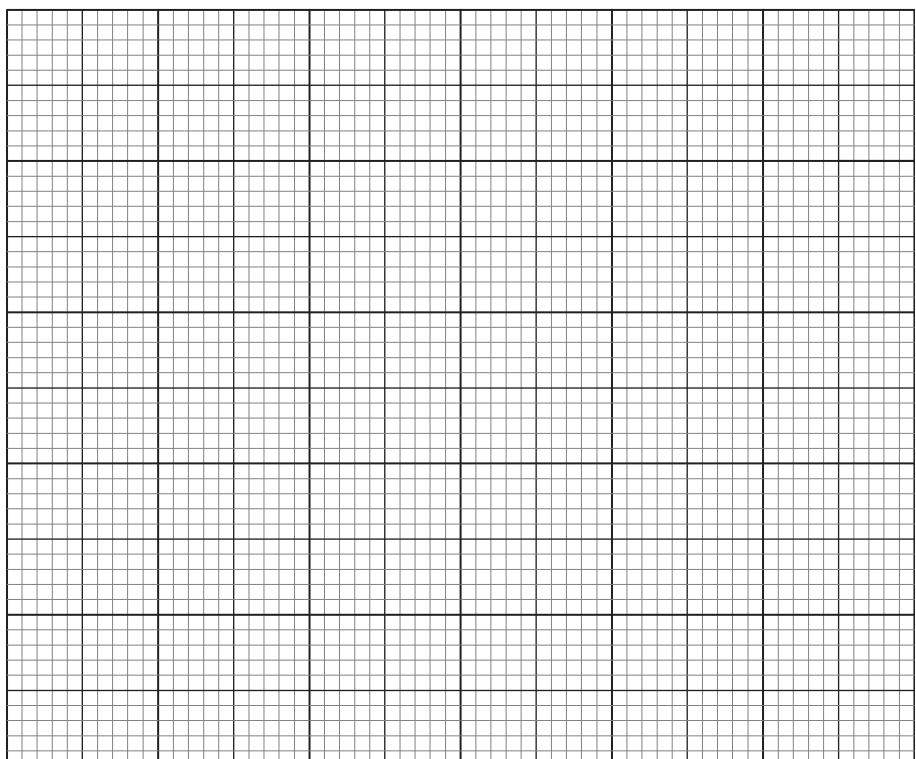
Examiner Only	
Marks	Remark

6 The increase in test scores of 100 children over a period of time was recorded.

Increase in test scores (w)	$0 < w \leq 5$	$5 < w \leq 10$	$10 < w \leq 15$	$15 < w \leq 20$	$20 < w \leq 25$
Frequency	16	36	22	14	12

Show this information on a grouped frequency diagram.

[3]



7 (a)



© The Royal Mint

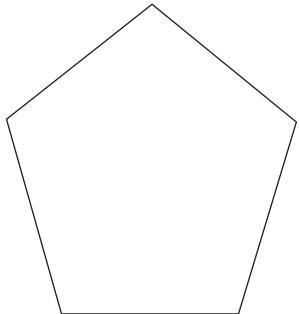
A ten pence piece has a radius of 1.4 cm.

Calculate the circumference of this coin.

Examiner Only	
Marks	Remark

Answer _____ cm [2]

(b)



Explain why the sum of the interior angles in a regular pentagon is 540° .

[2]

8 A new bicycle is priced at £240

In a sale it is reduced by 35%.

Calculate the sale price.

Answer £ _____ [3]

9 A ramp is placed next to a step to allow wheelchair access.

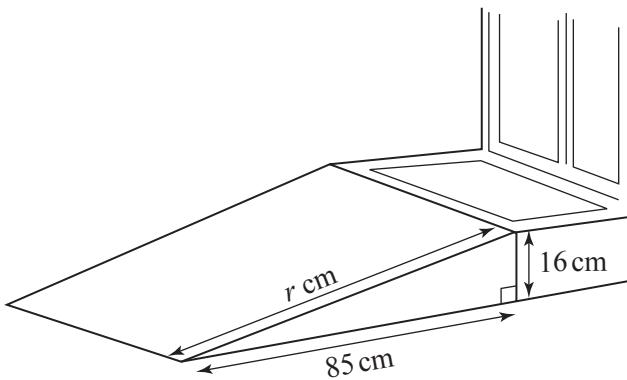
Examiner Only

Marks

Remark

The ramp is 16 cm high and reaches 85 cm from the step.

Calculate the sloping length, r cm, of the ramp to the edge of the step.



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]

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.

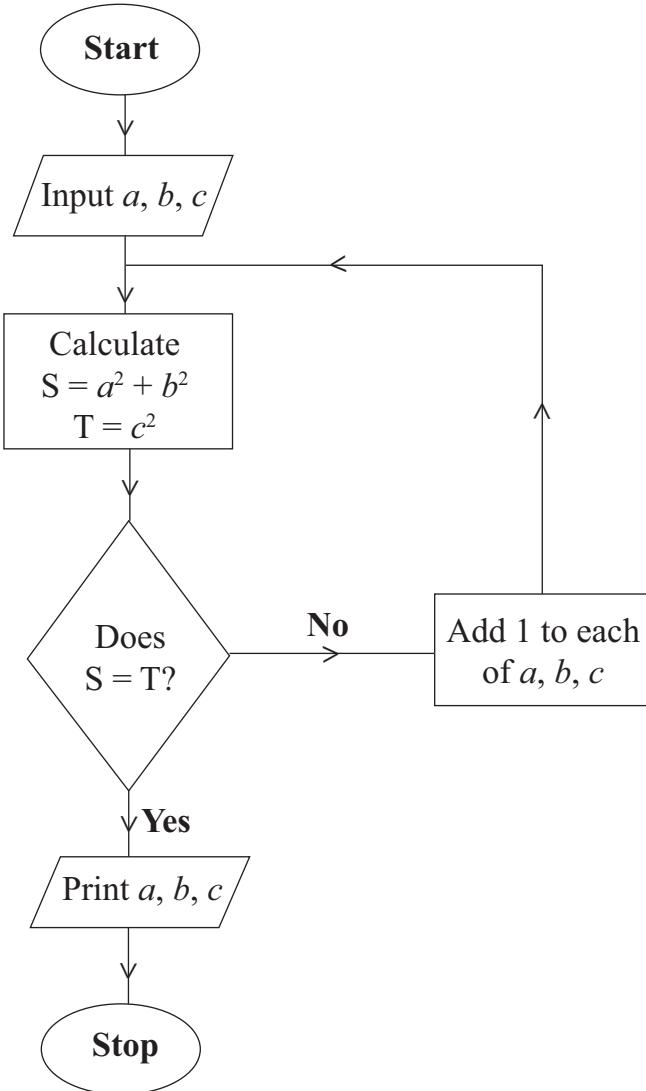
Show all your working.

Examiner Only	
Marks	Remark

Answer $x =$ _____ [3]

12

Examiner Only	
Marks	Remark



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

a	b	c	S	T
2	9	10		

Answer $a =$ _____, $b =$ _____, $c =$ _____ [3]

THIS IS THE END OF THE QUESTION PAPER

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