

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS International General Certificate of Secondary Education

	CANDIDATE NAME		
	CENTRE NUMBER	CANDIDATE NUMBER	
* 5	MATHEMATICS		0580/32
6	Paper 3 (Core)		May/June 2011
7 9 1	Candidates answe	er on the Question Paper.	2 hours
848*	Additional Materia	als: Electronic calculator Geometrical instruments Mathematical tables (optional) Tracing paper (optional)	

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.Write in dark blue or black pen.You may use a pencil for any diagrams or graphs.Do not use staples, paper clips, highlighters, glue or correction fluid.DO NOT WRITE IN ANY BARCODES.

Answer all questions.

If working is needed for any question it must be shown below that question.

Electronic calculators should be used.

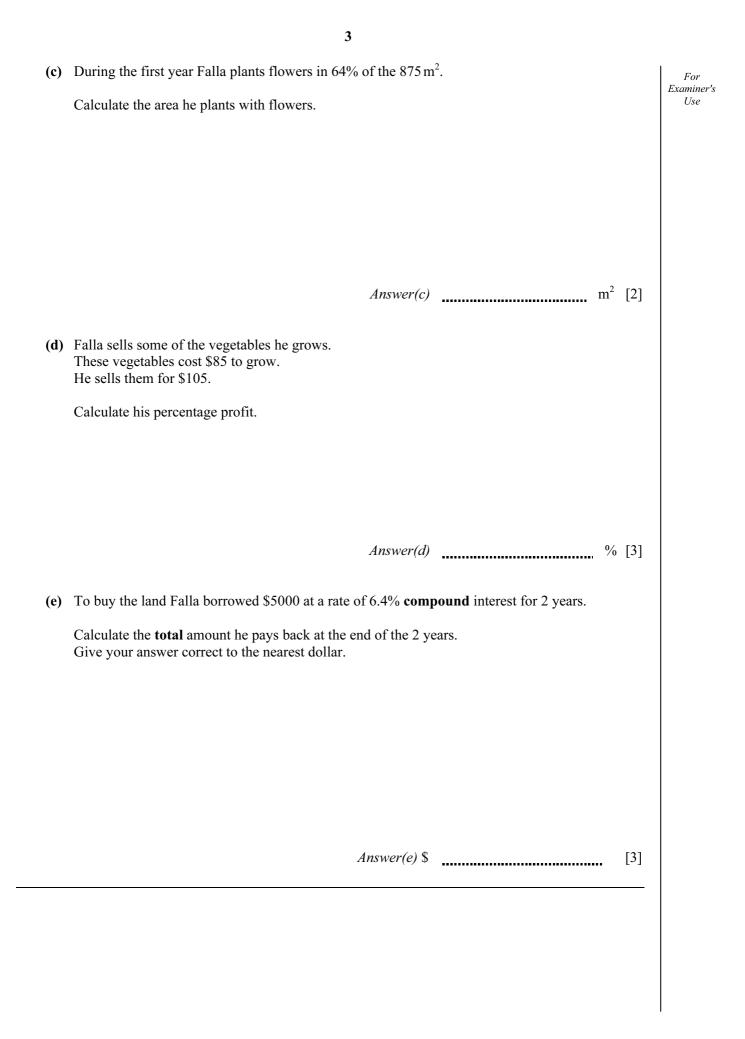
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place. For π , use either your calculator value or 3.142.

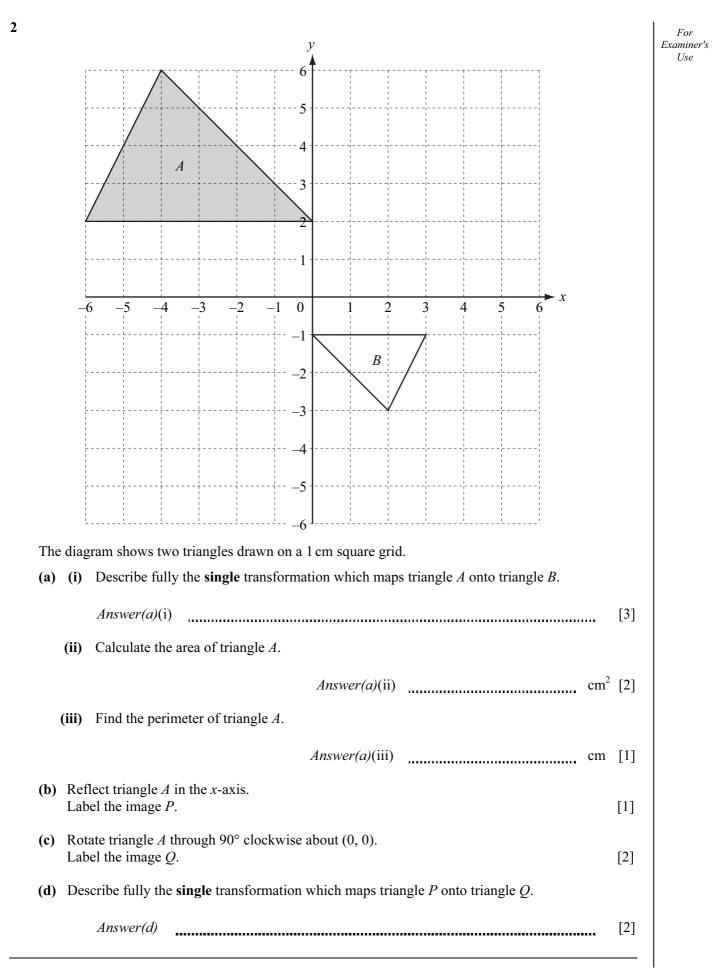
At the end of the examination, fasten all your work securely together. The number of marks is given in brackets [] at the end of each question or part question. The total of the marks for this paper is 104.

This document consists of 16 printed pages.



1			ys 3000 square metres of land for a house and garden. Ien is divided into areas for flowers, vegetables and grass.	For Examiner's Use
	He	divid	es the land in the following ratio.	0.50
			house : flowers : vegetables : grass = 4 : 7 : 8 : 5	
	(a)	(i)	Show that the area of land used for flowers is $875 \mathrm{m}^2$.	
			Answer(a)(i)	
			[2]	
		(ii)	Calculate the area of land used for the house.	
			Answer(a)(ii) m^2 [2]	
	(b)		te down the fraction of land used for vegetables. e your answer in its simplest form.	
			$Answer(b) \qquad [2]$	
			[2]	

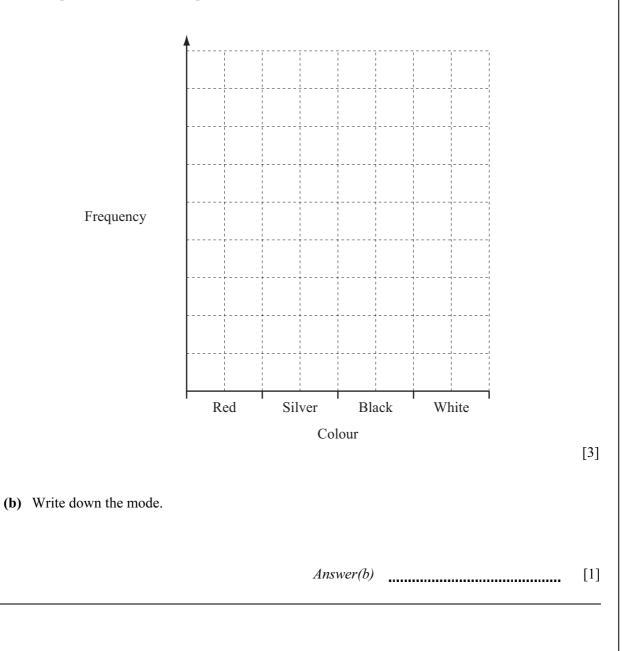




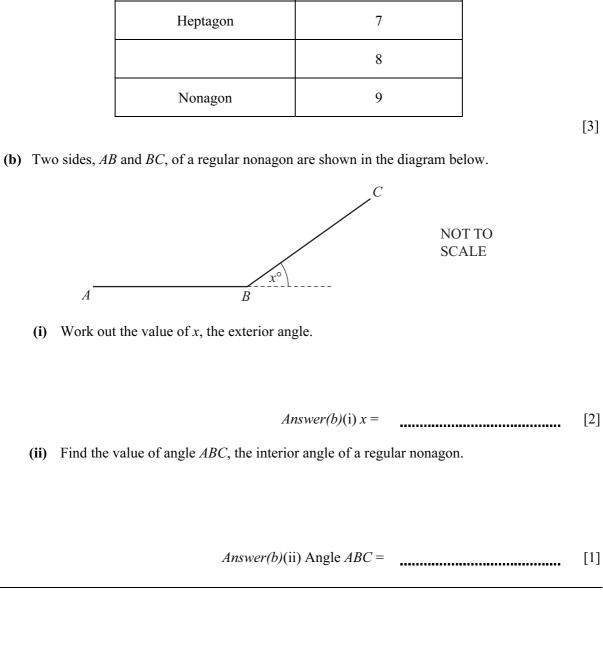
3 The colours of 30 cars in a car park are shown in the frequency table.

Colour	Frequency			
Red	5			
Silver	15			
Black	6			
White	4			

(a) Complete the bar chart to represent this information.



4	(a) An	An electrician is paid a fixed amount of \$12 and then \$6.50 for each hour she works.							
	(i)	The electrician works for 7 hours.	Examiner's Use						
		Calculate how much she is paid for this work.							
		Answer(a)(i) [2]							
	(ii)	The electrician works for <i>n</i> hours.							
		Write down an expression, in terms of n , for how much she is paid.							
		Answer(a)(ii) [1]							
	(;;;)								
	(iii)	The electrician is paid \$44.50 for her work.							
		Calculate the number of hours she worked.							
		Answer(a)(iii) [2]							
	(b) So	lve the simultaneous equations. $3x - y = 22$							
		5x + 3y = 4							
		Answer(b) x =							
		y = [3]							
			1						



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5 (a) The table below shows how many sides different polygons have.

Complete the table.

Name of polygon	Number of sides
	3
Quadrilateral	4
	5
Hexagon	6
Heptagon	7
	8
Nonagon	9

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(a) (i)	Find the range.			
(ii)	Calculate the mean.	Answer(a)(i)	[1]
(iii)	Find the median.	Answer(a)(ii)	[2]
		Answer(a)(iii)	[2]
(b) The	numbers of chocolate, strawbe	erry and vanilla ice-cream	is sold are shown in the table.	
	Flavour	Number of ice-creams	Pie chart sector angle	
	Chocolate	4200	140°	
	Strawberry	3600		
	Vanilla	3000		
(i)	Complete the table by workin	g out the sector angles for	r strawberry and vanilla.	[3]
(ii)	Complete the pie chart below	and taket the costons		

6	The number of ice-creams sold in a shop each month is shown in the table.
---	---

Apr

1800

May

2300

Feb

1200

Jan

1300

Mar

1700

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Month

Number of

ice-creams sold

8

Jun

2500

Jul

2800

Aug

2600

Oct

1600

Sep

1500

Nov

1100

Dec

1900

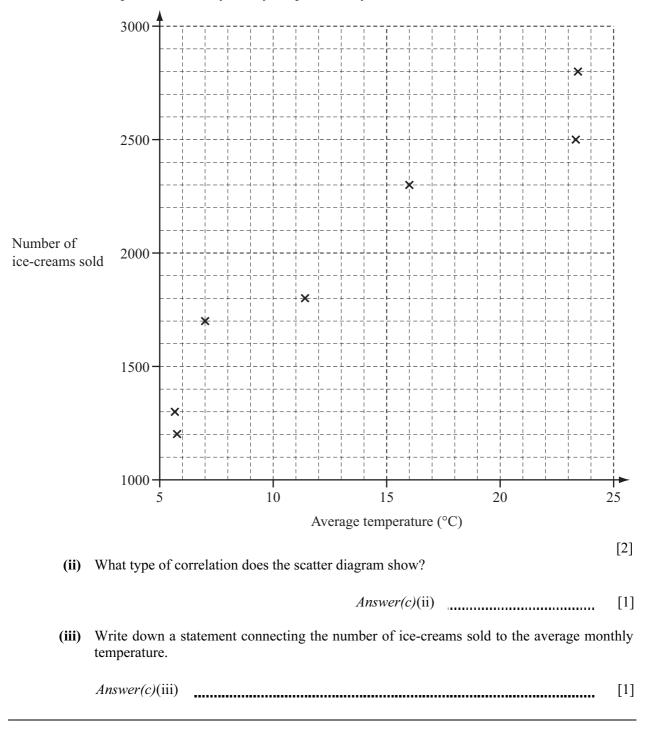
[2]

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (°C)	5.6	5.7	7.0	11.4	16.0	23.3	23.4	20.0	15.5	11.5	8.0	14.0
Number of ice-creams sold	1300	1200	1700	1800	2300	2500	2800	2600	1500	1600	1100	1900

(c) The table shows the average temperature and the number of ice-creams sold each month.

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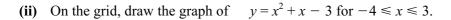
(i) Complete the scatter diagram for the months August to December. The points for January to July are plotted for you.

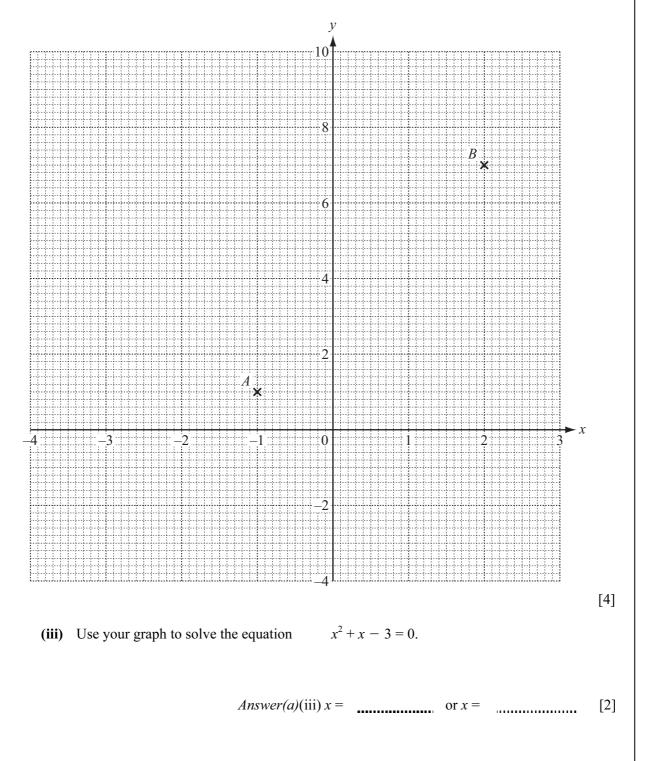


7 (a) The table shows some values of the function $y = x^2 + x - 3$.

x	-4	-3	-2	-1	0	1	2	3
У	9	3		-3		-1		9

(i) Complete the table.

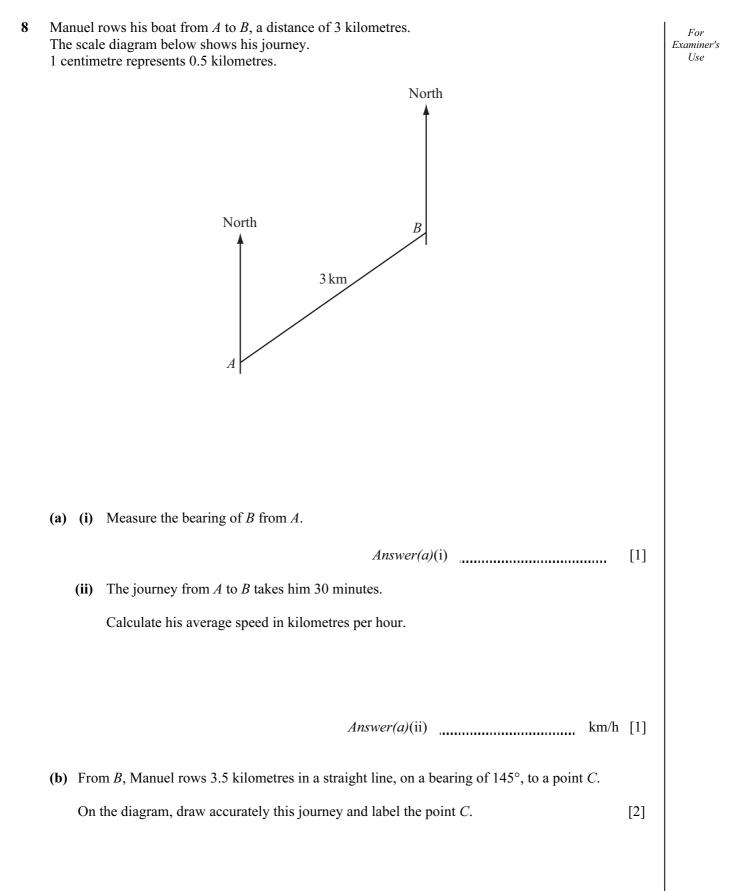




[2]

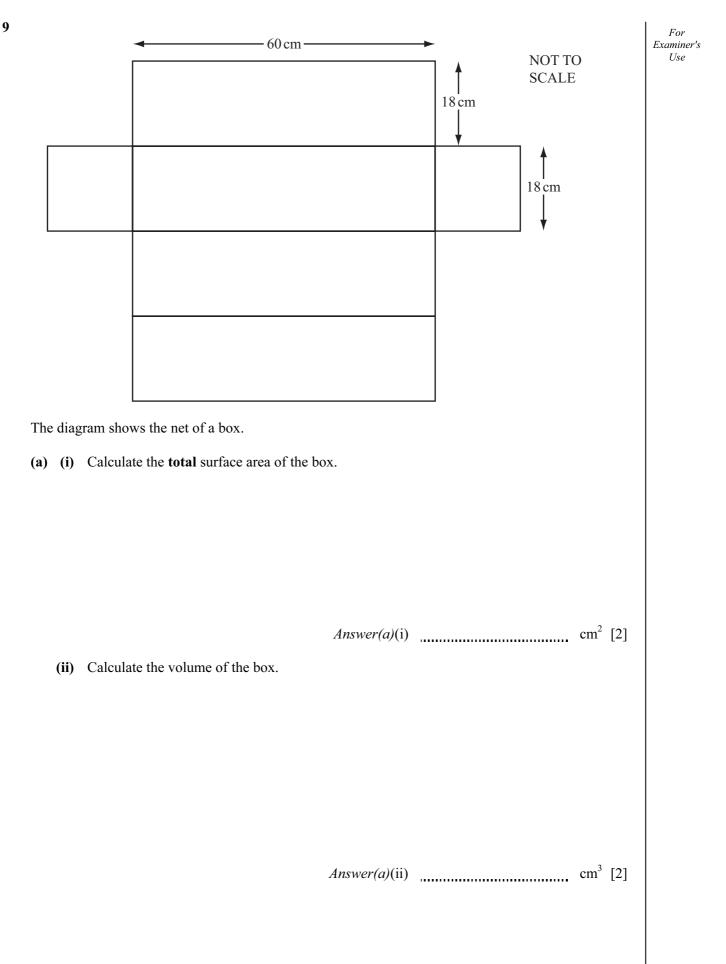
(b) (i) (ii)	Draw the line of symmetry of the graph. Write down the equation of the line of symmetry.	[1]	For Examiner's Use
	Answer(b)(ii)	[1]	
(c) Tw	p points, A and B, are marked on the grid.		
(i)	Draw the straight line through the points A and B extending it to the edges of the grid.	[1]	
(ii)	Write down the co-ordinates of the points of intersection of this line with $y = x^2 + x - x^2 + x^2 $	3.	
(iii)	Answer(c)(ii) (,, , , ,) and (, , ,) Work out the gradient of the straight line through points A and B .	[2]	
	Answer(c)(iii)	[2]	
(iv)	Write down the equation of the straight line through points A and B, in the form $y = mx$	+ c.	
	Answer(c)(iv) $y =$	[2]	

11



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[Turn over



(b) A cylinder with **diameter** 18 cm and length 60 cm just fits inside the box. For Examiner's UseNOT TO SCALE 60 cm 18 cm (i) Calculate the volume of the cylinder. Answer(b)(i) cm³ [2] (ii) Find the volume of space outside the cylinder but inside the box. Answer(b)(ii) cm³ [1] (iii) Calculate the curved surface area of the cylinder. Answer(b)(iii) cm^2 [2]

Question 10 is printed on the following page.

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