

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

B277B

**MATHEMATICS C
(GRADUATED ASSESSMENT)**

MODULE M7 (SECTION B)

TUESDAY 21 JUNE 2011: Afternoon

DURATION: 30 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Geometrical instruments

Tracing paper (optional)

Scientific or graphical calculator

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

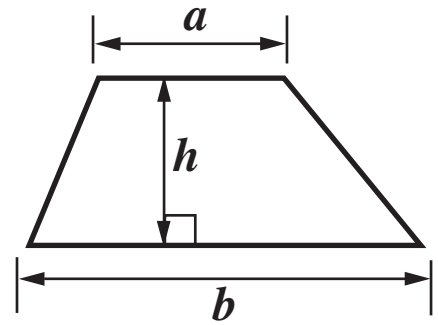
- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **Show your working. Marks may be given for a correct method even if the answer is incorrect.**
- **Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).**
- **Answer ALL the questions.**

INFORMATION FOR CANDIDATES

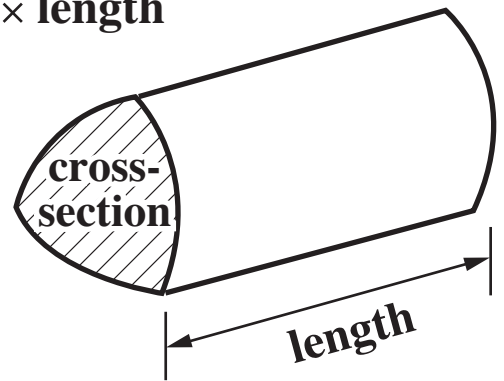
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **Section B starts with question 8.**
- **You are expected to use a calculator in Section B of this paper.**
- **Use the π button on your calculator or take π to be 3.142 unless the question says otherwise.**
- **The total number of marks for this Section is 25.**

FORMULAE SHEET

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



Volume of prism = (area of cross-section) \times length



- 8 (a) Juanita is working out costs for a party at her home.
The decorations cost £10.
She spends £8 per person on refreshments.**

Write a formula for the total cost in pounds, C , of her party for n people.

(a) _____ [2]

(b) Seth uses this formula for the total cost of his party.

$$C = 6n + 50$$

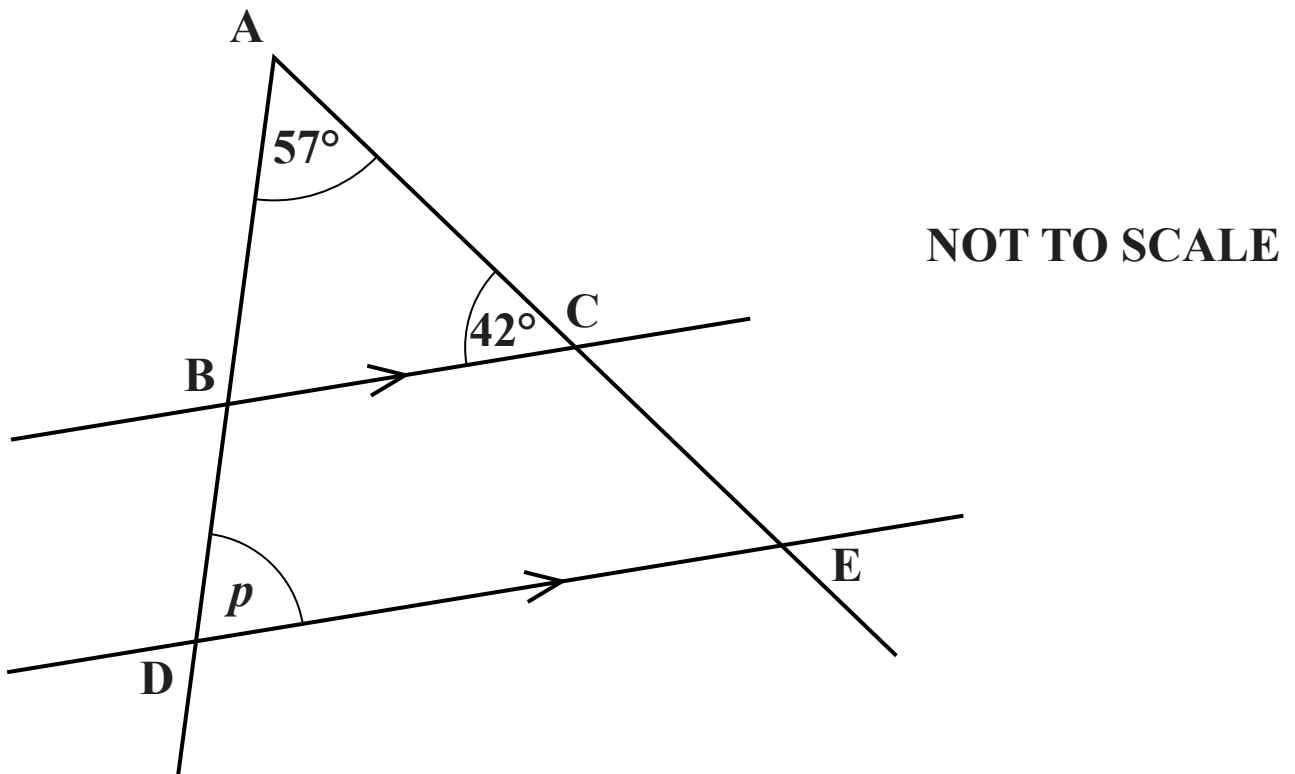
C is the total cost in pounds and n is the number of people at the party.

Seth has a budget of £200 for the total cost.

Find the largest number of people that he can have at his party.

(b) _____ [2]

- 9 Find the size of angle p in the diagram below. Give reasons for your answer.



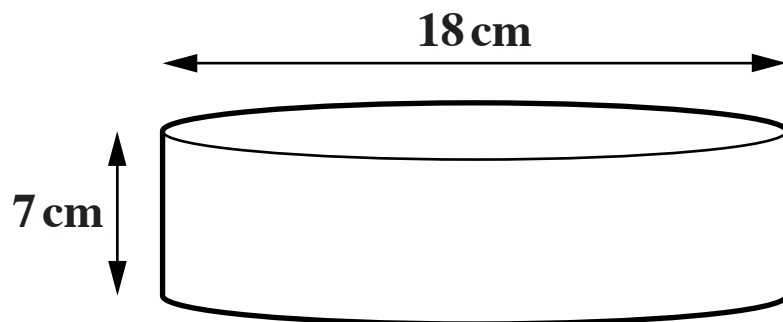
$p =$ _____ $^{\circ}$ because _____

_____ [3]

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TURN OVER FOR QUESTION 10

10 A birthday cake is in the shape of a cylinder.



- (a) The top of the cake is to be covered in icing.
8 g of icing covers an area of 10 cm^2 .**

What weight of icing is needed?

(a) _____ g [3]

**(b) The side of the cake is to be covered in nuts.
5 g of nuts cover an area of 10 cm^2 .**

What weight of nuts is needed?

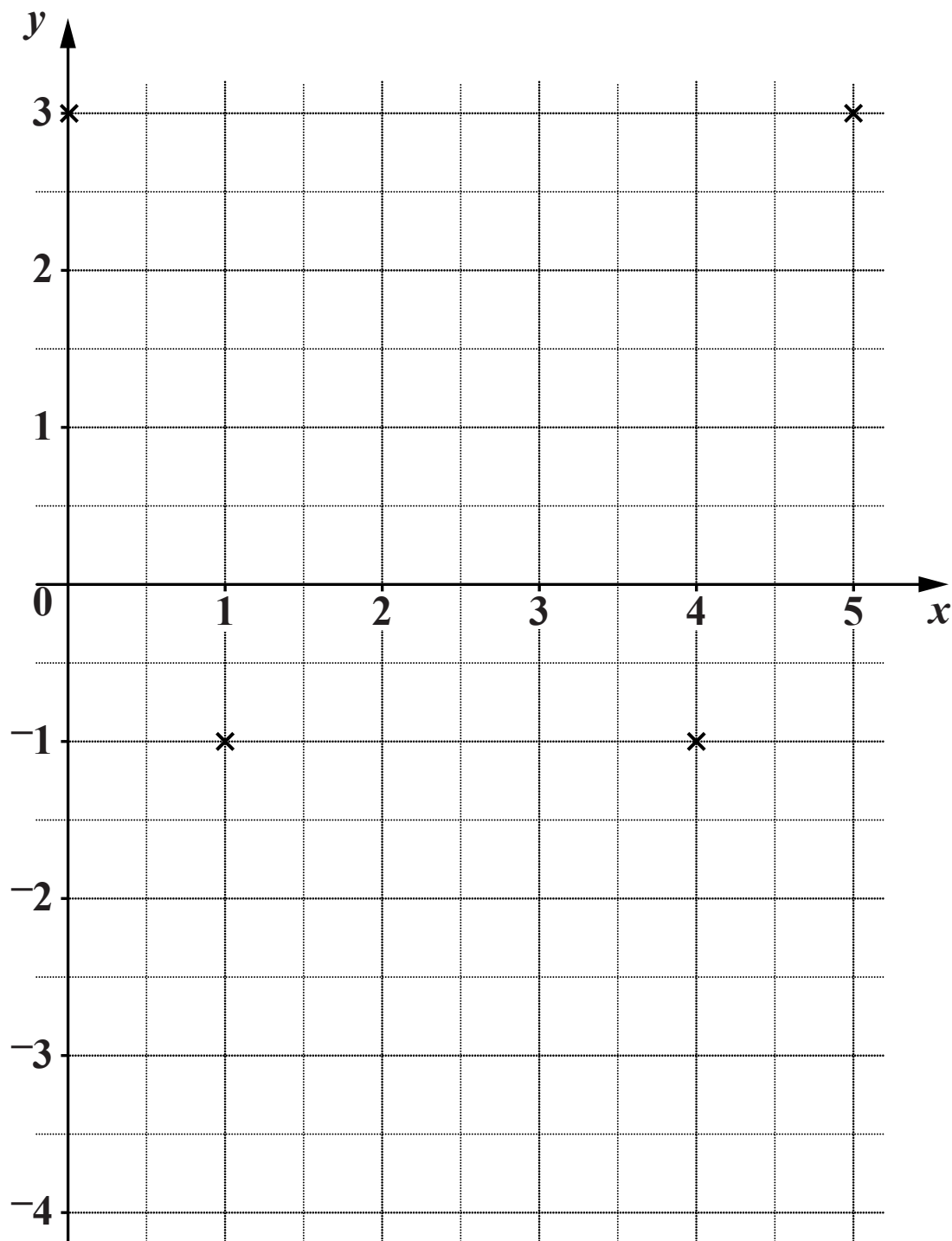
(b) _____ g [3]

11 (a) Complete this table for $y = x^2 - 5x + 3$.

x	0	1	2	3	4	5
y	3	-1			-1	3

[1]

(b) Complete this graph of $y = x^2 - 5x + 3$ for values of x from 0 to 5.



[2]

- (c) Use the graph to find the values of x for which $x^2 - 5x + 3 = 0$.
Give your answers correct to 1 decimal place.**

(c) _____ [2]

- 12 (a) Ashad investigates the price charged for a cup of coffee in different cafés.

This table summarises his results.

Price (£ c)	Frequency
$0.50 < c \leq 1.00$	2
$1.00 < c \leq 1.50$	12
$1.50 < c \leq 2.00$	13
$2.00 < c \leq 2.50$	7
$2.50 < c \leq 3.00$	2

Calculate an estimate of the mean price charged for a cup of coffee.

(a) £ _____ [4]

(b) One café increases its price from £2.25 to £2.40.

Calculate the percentage increase.

Give your answer correct to 1 decimal place.

(b) _____ % [3]

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