

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**

B275B

**MATHEMATICS C
(GRADUATED ASSESSMENT)**

MODULE M5 – SECTION B

TUESDAY 23 JUNE 2009: Morning

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)

Pie chart scale (optional)

Electronic calculator

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

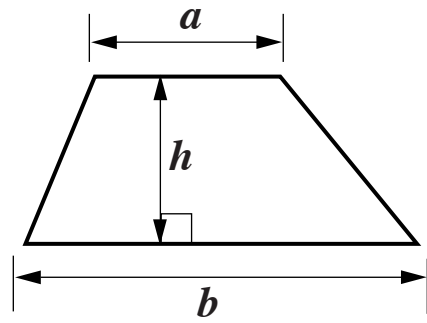
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Answer ALL the questions.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

INFORMATION FOR CANDIDATES

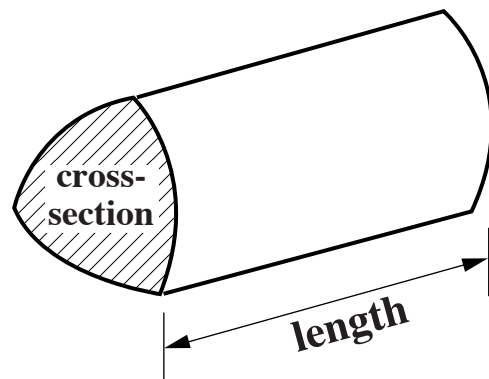
- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 6.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is 25.

FORMULAE SHEET

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



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



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6 The conductor of an orchestra is choosing a concert programme.

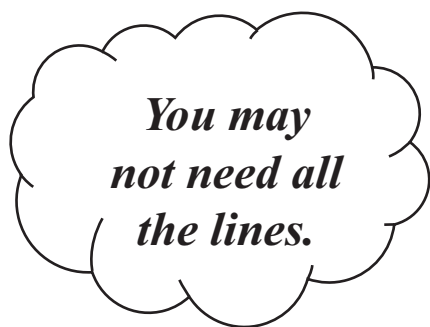
The concert will be an overture followed by a symphony.

He must choose one of three overtures (A, B or C).

He must choose one of four symphonies (1, 2, 3 or 4).

(a) List all the possible concert programmes.

One has been done for you.



Overture	Symphony
A	1

[2 marks]

(b) He chooses one of these concert programmes at random.

**What is the probability that he chooses overture A
followed by symphony 2?
[1 mark]**

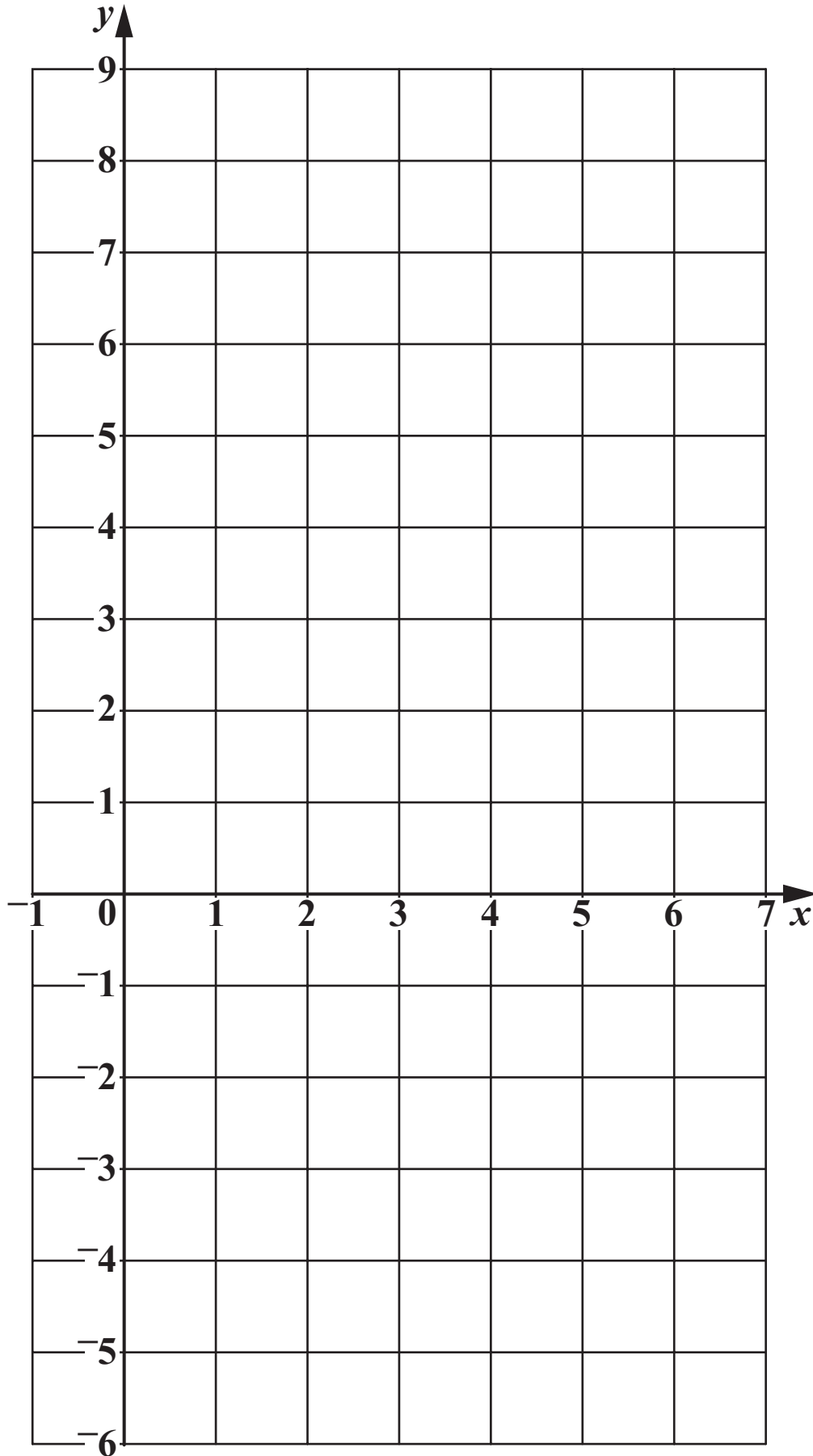
(b) _____

7 (a) Complete this table for $y = 2x - 4$.

x	0	3	6
y			8

[1 mark]

(b) Draw the graph of $y = 2x - 4$.



[2 marks]

- (c) Use your graph to find y when $x = 0.5$.
[1 mark]

(c) _____

- 8 (a) This formula gives the perimeter, H , of a regular hexagon with side s .

$$H = 6s$$

Find the perimeter of a regular hexagon of side 4 cm.
[1 mark]

(a) _____ cm

- (b) This formula gives the perimeter, R , of a particular irregular pentagon with some equal sides.

$$R = 2L + 3W$$

Two of the sides each have length L .
Three of the sides each have length W .

Find the perimeter of this pentagon when $L = 3.1$ cm
and $W = 5$ cm.
[2 marks]

(b) _____ cm

- 9 (a) The attendance at Marston Rovers' last home match was 5472.**

**Round 5472 to the nearest hundred.
[1 mark]**

(a) _____

- (b) The mean attendance at Marston Rovers' matches last season was 3451.875.**

**Round 3451.875 to the nearest integer.
[1 mark]**

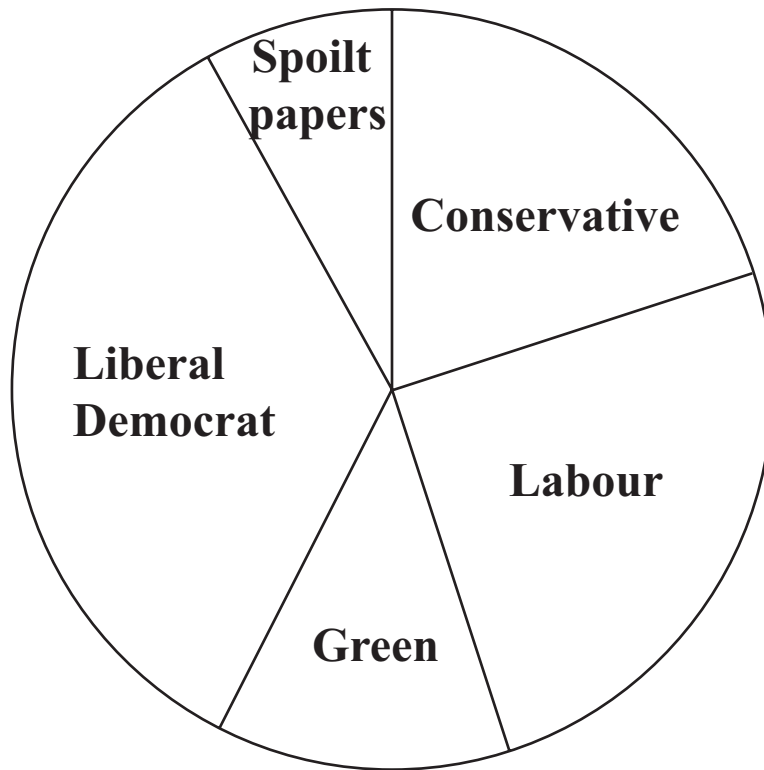
(b) _____

- (c) Marston High School has 800 students.
96 of them attended Marston Rovers' match last Saturday.**

**What percentage of the students attended the match?
[2 marks]**

(c) _____ %

**10 (a) 200 people voted in a parish council election.
This pie chart summarises the results.**



(i) Janine says that 50 people voted Labour.

Is Janine correct?

Give a reason for your answer.

*Write Yes
or No.*

[1 mark]

_____ because _____

- (ii) Leonardo says that $\frac{1}{5}$ of the people voted Conservative.

Is Leonardo correct?

Give a reason for your answer.



*Write Yes
or No.*

[2 marks]

_____ because _____

- (iii) How many people voted Green?
[2 marks]

(a)(iii) _____

- (b) People in Shurghall and Beaton travel to vote. This table shows some information about how far, in kilometres, they travel to vote.

	Shurghall	Beaton
Mean	2.4	1.7
Range	3.6	

- (i) In Beaton, the shortest distance that people travel to vote is 0.1 km and the furthest is 4.3 km.

Complete the table.

[1 mark]

- (ii) Complete the following.

*Write Shurghall
or Beaton.*

The distances that people travel to vote are more varied in _____

*Write mean
or range.*

This is shown by the _____
[1 mark]

11 Triangle ABC has sides $AB = 7.2$ cm, $AC = 5.4$ cm and $BC = 6.1$ cm.

- (a) Using ruler and compasses, construct triangle ABC. Line AB has been drawn for you. Leave in all your construction lines.**



[3 marks]

- (b) Measure angle C.
[1 mark]**

(b) _____ °

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