OCR
RECOGNISING ACHIEVEMENT

M5

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT)

B275B

MODULE M5 – SECTION B

Candidates answer on the question paper

OCR Supplied Materials:
None

Other Materials Required:
- Geometrical instruments
- Tracing paper (optional)
- Pie chart scale (optional)
- Electronic calculator

Tuesday 23 June 2009
Morning

Duration: 30 minutes

OCE/10396

B2755B

Candidate Forename		Candidate Surname	

Centre Number						Candidate Number				

MODIFIED LANGUAGE

INSTRUCTIONS TO CANDIDATES

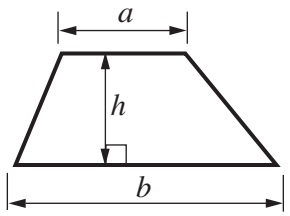
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

INFORMATION FOR CANDIDATES

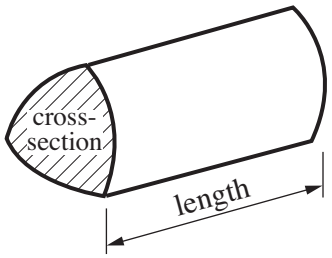
- The number of marks is given in brackets **[ ]** at the end of each question or part question.
- Section B starts with question 6.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

Formulae Sheet

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



Volume of prism = (area of cross-section) × length



PLEASE DO NOT WRITE ON THIS PAGE

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.

You may not need all the lines.

Overture	Symphony
A	1

[2]

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

What is the probability that he chooses overture A with symphony 2?

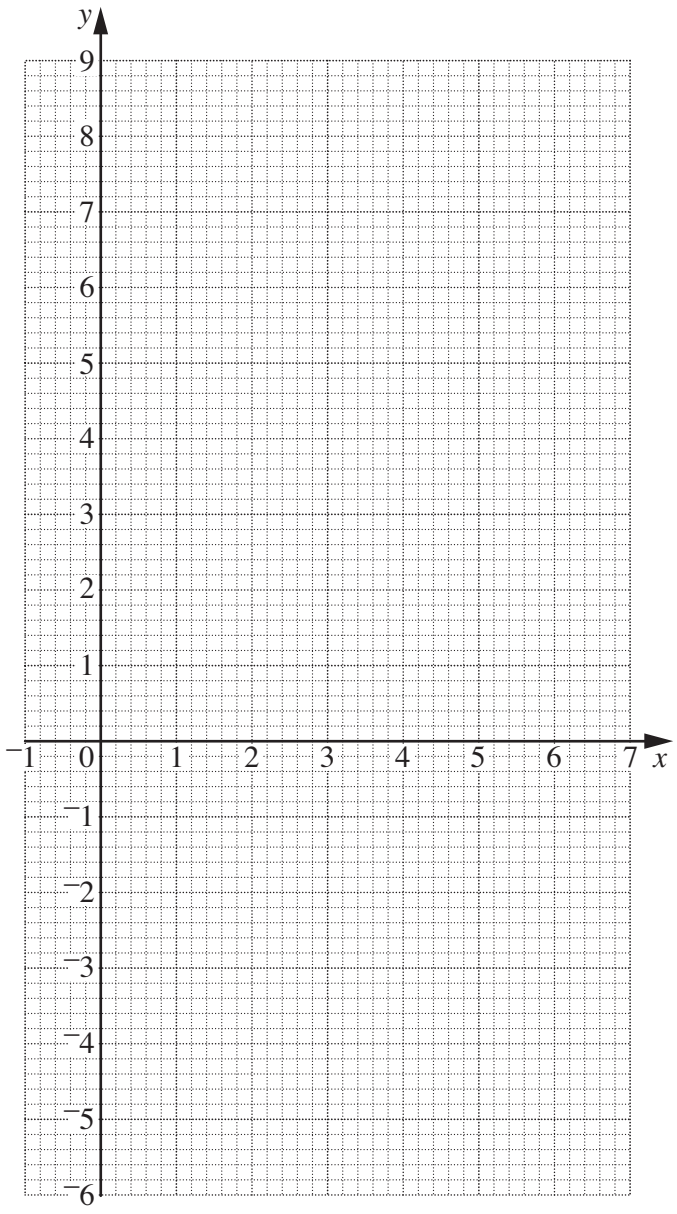
(b) .....**[1]**

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

x	0	3	6
y			8

[1]

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



[2]

(c) Use your graph to find y when $x = 0{\cdot}5$.

(c) .....**[1]**

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.

(a) ..... cm **[1]**

(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 $L = 3{\cdot}1$ cm and $W = 5$ cm.

(b) ..... cm **[2]**

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

Round 5472 to the nearest hundred.

(a) .....**[1]**

(b) The mean attendance at Marston Rovers' matches last season was 3451·875.

Round 3451·875 to the nearest integer.

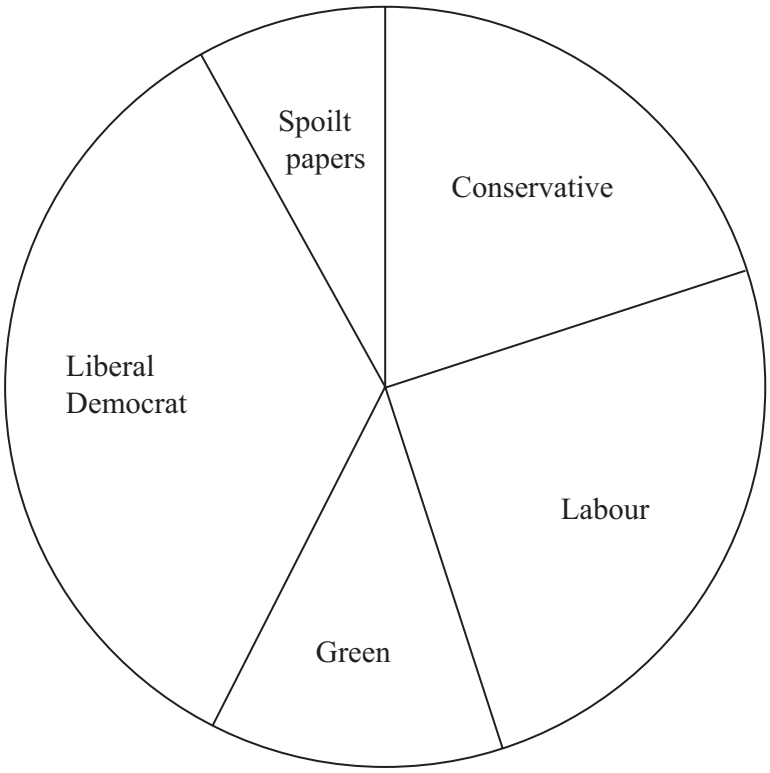
(b) .....**[1]**

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

What percentage of the students attended the match?

(c) ..... % **[2]**

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.

..... because .....

.....**[1]**

(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.

..... because .....

.....**[2]**

(iii) How many people voted Green?

(a)(iii) .....**[2]**

(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]**

(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]**

TURN OVER FOR QUESTION 11

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.

A B

[3]

(b) Measure angle C.

(b) ..... ° **[1]**