OCR
RECOGNISING ACHIEVEMENT

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT) **M5** **B245A**

MODULE M5 – SECTION A

MONDAY 22 JANUARY 2007   Morning

Time: 30 minutes

Candidates answer on the question paper.
Additional materials: Geometrical instruments
                          Tracing paper (optional)
                          Pie chart scale (optional)

Candidate Name	

Centre Number					

Candidate Number				

INSTRUCTIONS TO CANDIDATES

*   Write your name, Centre Number and Candidate Number in the boxes above.
*   Answer **all** the questions.
*   Use blue or black ink. Pencil may be used for graphs and diagrams only.
*   Read each question carefully and make sure you know what you have to do before starting your answer.
*   In many questions marks will be given for a correct method even if the answer is incorrect.
*   Do **not** write in the bar code.
*   Do **not** write outside the box bordering each page.
*   WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

INFORMATION FOR CANDIDATES

*   The number of marks is given in brackets [ ] at the end of each question or part question.
*   The total number of marks for this Section is 25.

WARNING
**You are not allowed to use a
calculator in Section A of this paper.**

For Examiner's Use	
Section A	
Section B	
Total	

This document consists of **8** printed pages.

2
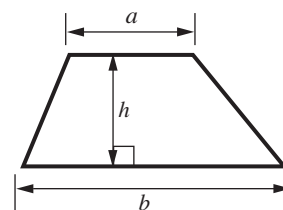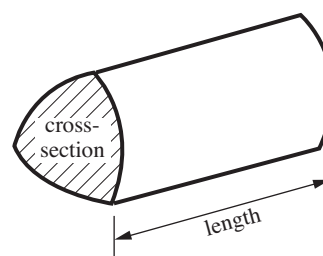
Formulae Sheet

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

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

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1

(a) The attendance at a football match was 22 634.

Write 22 634

    (i) correct to the nearest thousand,

           (a)(i) .... [1]

    (ii) correct to one significant figure.

           (ii) .... [1]

(b) Mohibur organises a coach to take fans to another match.
42 fans have to pay £11·25 each to travel on the coach.

    (i) Write down a calculation Mohibur could do in his head to
          estimate the total amount paid for the coach.

       .... × .... = £.. [2]

    (ii) Is your estimate bigger or smaller than the exact amount?
          Explain how you decide.

       .... because ....

       ....

       .... [1]

                                             5

[Turn over

2 Solve.

(a) $11 = x + 3$

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

(b) $5x = 60$

(b) .... [1]

(c) $3x - 2 = 10$

(c)..................................... [2]

4

3 Put a tick (✓) in the correct column for each of these statements.

Statement	Always true	Sometimes true	Never true
A kite has one pair of parallel sides.			
The opposite sides of a parallelogram are equal.			
All the angles of a trapezium are different.			
The diagonals of a rhombus cross at right angles.			

[3]

3

4 The scale drawing shows the position of two towns, Bury St Edmunds and Ipswich.

North

Scale: 1 cm to 4 km

Bury St
Edmunds
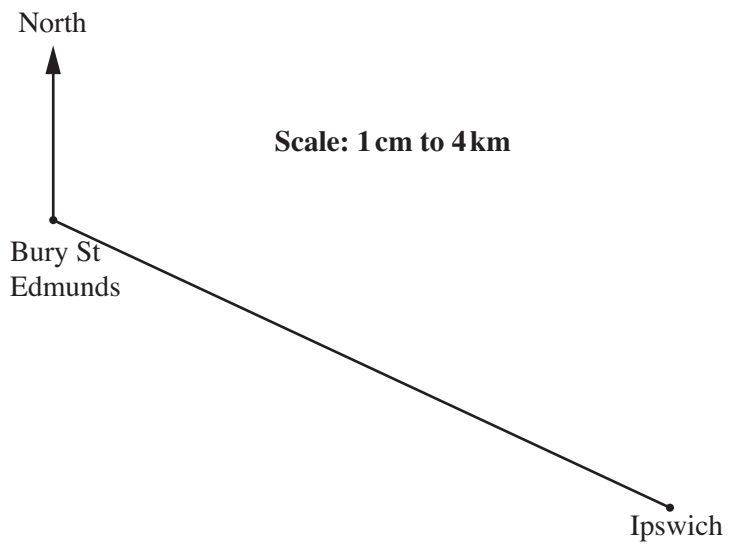
Ipswich

(a) **(i)** Measure the bearing of Ipswich from Bury St Edmunds.

(a)(i).............................° [1]

(ii) Find the distance, in kilometres, between Ipswich
and Bury St Edmunds.

(ii)...........................km [2]

(b) Newmarket is 22 km due West of Bury St Edmunds.

On the diagram above, mark and label the position of Newmarket. [2]

5

5   Tara takes her son to Adventureland.
      Here are the ticket prices.

Adventureland

Adult   £20
Child   £15

Special offer
Monday
save 20%

On Monday, ticket prices are reduced by 20%.
Tara buys one adult ticket and one child ticket.

How much does she save if she goes on Monday rather than Tuesday?

£ .... [3]

6 **(a)** Work out.

     (i) 6^2

                                (a)(i) .... [1]

     (ii) $5^2 - 2^3$

                                (ii) .... [2]

(b) Work out.

     (i) $3 - {}^-6$

                                (b)(i) .... [1]

     (ii) ${}^-4 \times {}^-2$

                                (ii) .... [1]

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