

**GENERAL CERTIFICATE OF SECONDARY EDUCATION
 MATHEMATICS C (GRADUATED ASSESSMENT)
 MODULE M5 – SECTION A**

M5

TUESDAY 11 MARCH 2008

Morning
 Time: 30 minutes

Candidates answer on the question paper
Additional materials (enclosed): None

Additional materials (required):
 Geometrical instruments
 Tracing paper (optional)
 Pie chart scale (optional)



* C O P / T 5 7 5 8 6 *

Candidate Forename

Candidate Surname

Centre Number

Candidate Number

INSTRUCTIONS TO CANDIDATES

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use blue or 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.

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**.



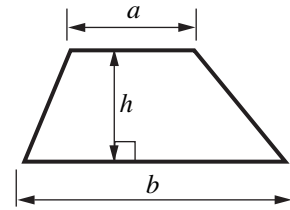
WARNING
 You are not allowed to use a calculator in Section A of this paper.

FOR EXAMINER'S USE	
SECTION A	
SECTION B	
TOTAL	

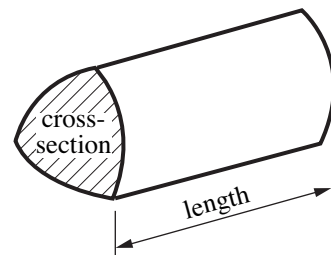
This document consists of **8** printed pages.

Formulae Sheet

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



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



PLEASE DO NOT WRITE ON THIS PAGE

- 1 Miss Gaunt is picking a team of one girl and one boy to take part in a quiz.
She can choose from:

Girls: Vicky (V), Sarah (S), Zara (Z)

Boys: Jack (J), Lee (L)

- (a) She lists all the possible teams.
Complete this table to show all the possible teams.

*You may not
need all the
lines.*

Girl	Boy
V	J

[2]

- (b) She picks the team from the list at random.

What is the probability that the girl is **either** Vicky **or** Zara?

(b) [2]

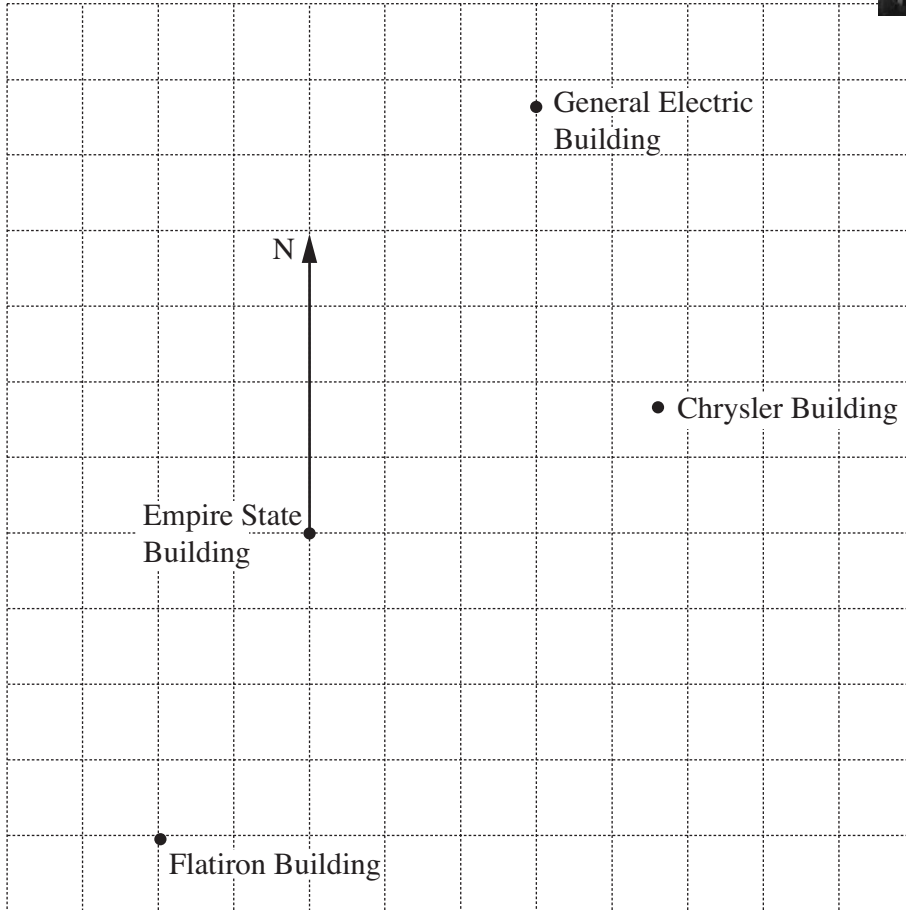
2 The Empire State Building is a building in New York.

(a) This scale drawing shows the positions of some buildings that can be seen from the top of the Empire State Building.

The scale is **5 cm to 1 km**.



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(i) Find the real distance, in kilometres, between the Empire State Building and the Flatiron Building.

(a)(i) km [2]

(ii) Find the bearing of the Chrysler Building from the Empire State Building.

(ii)° [1]

(iii) Find the bearing of the Chrysler Building from the General Electric Building.

(iii)° [1]

(b) The height of the Empire State Building is 443·0919 metres.

Write 443·0919 correct to one decimal place.

(b) [1]

(c) It cost \$24 718 000 to build the Empire State Building in 1930.

Write 24 718 000 correct to one significant figure.

(c) [1]

(d) The Empire State Building has 102 storeys.

When it was built, 18 storeys were constructed each month.

Estimate the number of months it took to build the 102 storeys.
Show your calculation.

..... = months [2]

- 3 (a) Write this fraction in its simplest form.

$$\frac{15}{25}$$

(a) [1]

- (b) Three of these fractions are equivalent.

$$\frac{15}{25} \quad \frac{21}{40} \quad \frac{36}{60} \quad \frac{12}{20}$$

Ring the fraction that is **not** equivalent to the other three. [1]

- (c) Work out.

$$\frac{2}{5} \times \frac{1}{4}$$

Give your answer in its simplest form.

(c) [2]

4 Solve.

(a) $3x = 18$

(a) [1]

(b) $17 = x - 9$

(b) [1]

(c) $4x + 7 = 25$

(c) [2]

5 Jamal gets £50 for his birthday.
He spends £12 of this on a DVD.

Write 12 out of 50 as a percentage.

.....% [2]

TURN OVER FOR QUESTION 6

6 Anita describes a quadrilateral to Jake.

She says it has

- four equal sides
- opposite angles that are equal
- exactly two lines of reflection symmetry.

(a) Jake thinks that the shape is a square.
He is wrong.

Explain why he is wrong.

..... [1]

(b) (i) Sketch the shape that Anita is describing.

[1]

(ii) Write down the mathematical name of the shape.

(b)(ii) [1]

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