



M5

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

B275B

Candidates answer on the question paper.

OCR supplied materials:
None

Other materials required:

- Geometrical instruments
- Tracing paper (optional)
- Pie chart scale (optional)
- Electronic calculator

Thursday 20 January 2011
Morning

Duration: 30 minutes



Candidate forename		Candidate surname	
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Centre number							Candidate number				
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MODIFIED LANGUAGE

INSTRUCTIONS TO CANDIDATES

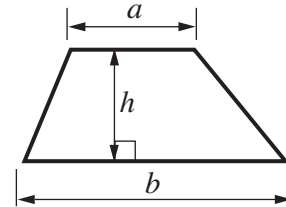
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Show your working. 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.
- Do **not** write in the bar codes.

INFORMATION FOR CANDIDATES

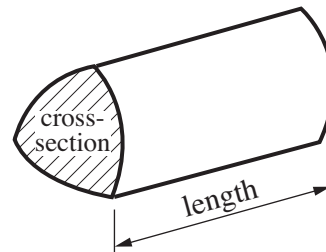
- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 9.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

Formulae Sheet

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



$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



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- 9 (a) This formula is used to work out the cost for Geoff's mobile phone.

$$T = 35m - 18$$

T is the total cost in pounds (£) and m is the number of months.

Calculate the total cost for 14 months.

(a) £ [2]

- (b) This formula is used to work out the cost for Ruth's mobile phone.

$$C = 7d + 12.5t$$

C is the total cost in pence, d is the total length of calls in minutes and t is the number of texts sent.

Calculate the total cost for 48 minutes of calls and 16 texts.

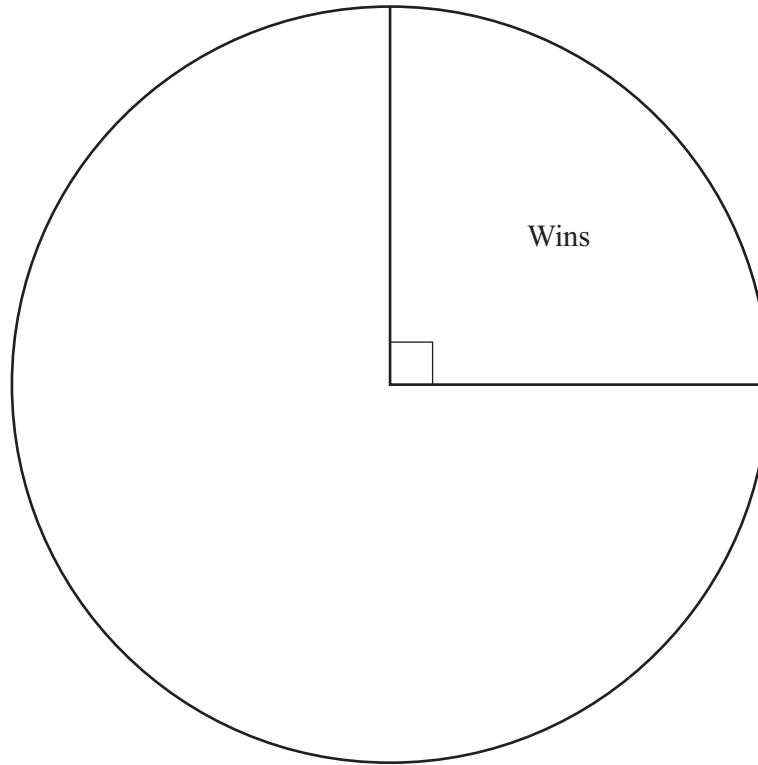
(b) p [2]

- 10 Brenda scored 17 out of 25 in a test.

Calculate this score as a percentage.

.....% [2]

- 11** Eddie records the results of his favourite team.
There are 48 results altogether.
The pie chart shows the sector for wins.



- (a)** Use the pie chart to work out how many wins there were.

(a) [2]

- (b)** There were 16 losses in the 48 matches.

Draw and label the sector for 'losses'.

[2]

12 (a) The table shows some properties of quadrilaterals.

For each box in the table, tick (✓) if the quadrilateral **always** has that property, or cross (✗) if not.

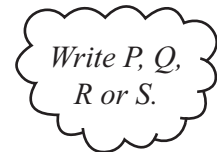
	All four sides equal	Both pairs of opposite angles equal	Diagonals bisect at 90°
square			
rhombus			
kite			

[3]

(b) A quadrilateral has the following properties.

- | |
|---|
| <p>P Opposite angles are equal.
 Q Diagonals meet at right angles.
 R Opposite sides are equal.
 S Diagonals bisect each other.</p> |
|---|

Which one of these properties means that the quadrilateral **cannot** be a rectangle?



(b) [1]

13 (a) Triangle ABC is an equilateral triangle with side length 6 cm.

Draw triangle ABC accurately.
The base, AB, has been drawn for you.



[2]

(b) Measure the perpendicular height, in centimetres, of C above the base AB.

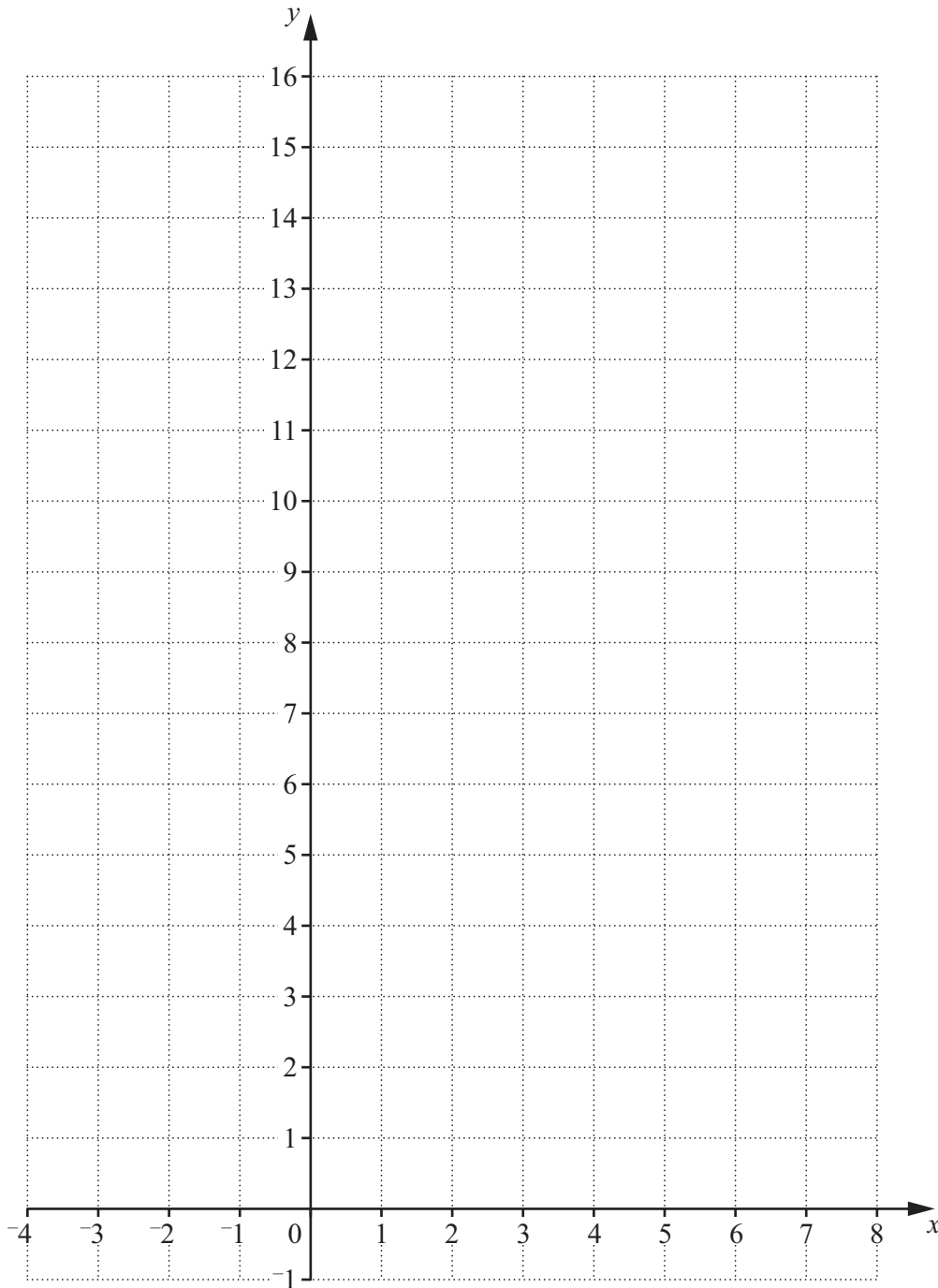
(b) cm [1]

14 (a) Complete this table for $y = x + 6$.

x	-4	0	4	8
y		6		

[1]

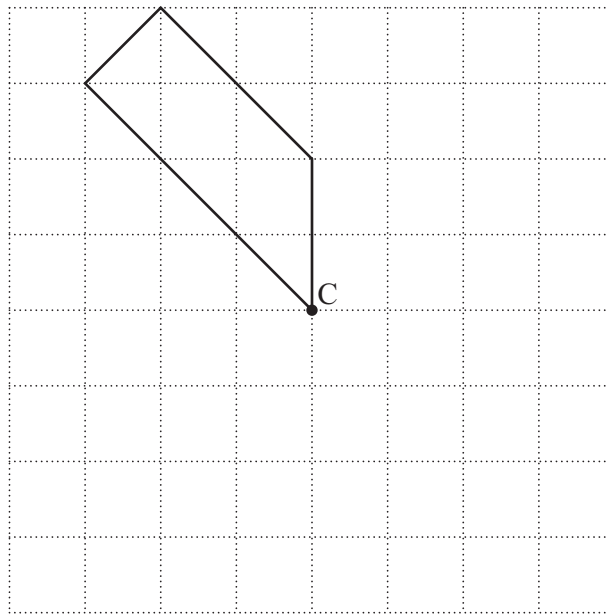
(b) Draw the graph of $y = x + 6$.



[2]

TURN OVER FOR QUESTIONS 15 AND 16

- 15 Complete the pattern so that it has rotation symmetry of order 2 about C.



[1]

- 16 A pair of shoes is priced at £65.
In a sale this price is reduced by 30%.
Harry buys the shoes in the sale with a £50 note.

How much change does he get?

£ [4]