

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M4 (SECTION B)

B274B

Candidates answer on the Question Paper

OCR Supplied Materials:
None

- Other Materials Required:**
- Geometrical instruments
 - Tracing paper (optional)
 - Electronic calculator

Monday 21 June 2010
Afternoon

Duration: 30 minutes



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

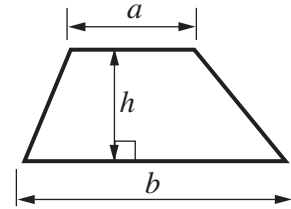
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working. 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. Additional paper may be used if necessary but you must clearly show your Candidate Number, Centre Number and question number(s).

INFORMATION FOR CANDIDATES

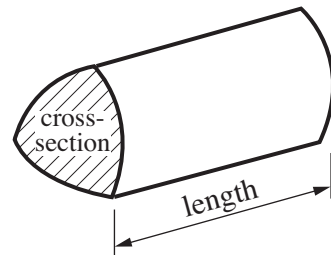
- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 7.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

Formulae Sheet

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



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



PLEASE DO NOT WRITE ON THIS PAGE

7 (a) Here is the term-to-term rule for a sequence.

multiply the term by 5 to find the next term

The first term of this sequence is 2.

Calculate the next three terms.

2

[2]

(b) Here are the first four patterns in another sequence.

* *

* * *
* * *

* * * *
* * * *
* * * *

* * * * *
* * * * *
* * * * *
* * * * *

Pattern 1

Pattern 2

Pattern 3

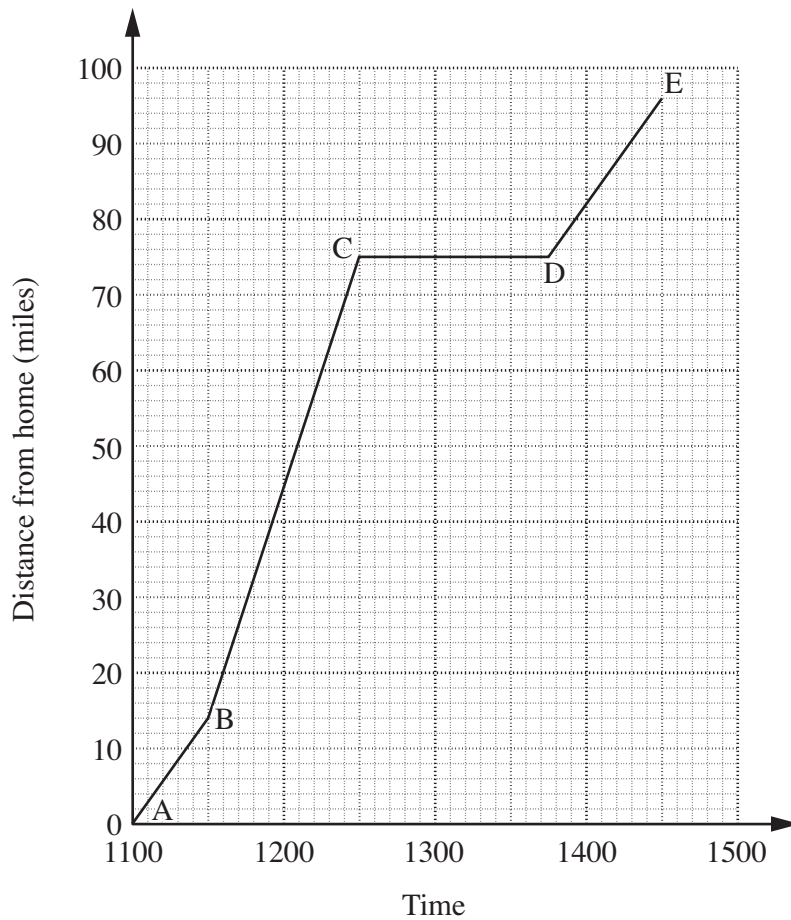
Pattern 4

How many stars are there in Pattern 5?
Explain how you decided.

Number of stars = because

..... [2]

8 (a) This travel graph shows Colin and Jean’s holiday journey from their home to Langton.



(i) How far is Langton from their home?

(a)(i)miles [1]

(ii) They stopped on the way for lunch.

For how long did they stop?

(ii) hours [1]

(iii) On which section of the journey did they go fastest?
Explain how you can tell.

Section to because
..... [1]

- (b) On their journey home, they went a different way.
They travelled 126 miles in 3 hours.

Calculate their average speed on their journey home.

(b) miles per hour [2]

- (c) While on holiday, they went for six walks.
These are the distances, in miles, of the six walks.

3 8 4 9 7 8

Calculate the mean distance of these walks.

(c)miles [3]

- (d) One day, Colin put 40 litres of fuel in their car.

Roughly, how many gallons is this?

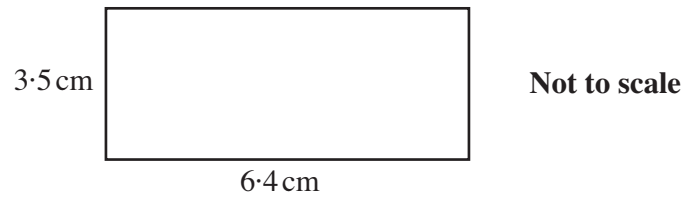
(d) [1]

- (e) Their holiday lasted for 7 days.
They spent £80 per day, plus the cost of renting their holiday cottage.
In total they spent £1050.

How much was the rent for their holiday cottage for the week?

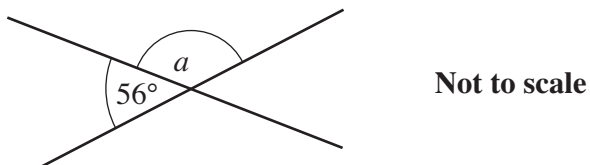
(e) £ [3]

- 9 Calculate the area of this rectangle.
Give the units of your answer.

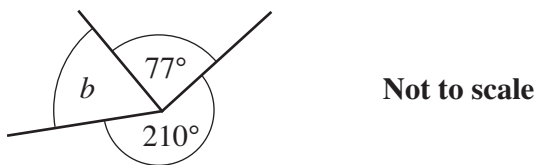


..... [3]

- 10 Calculate the angles marked with letters in these diagrams.



$a = \dots\dots\dots^\circ$ [1]



$b = \dots\dots\dots^\circ$ [2]

- 11** Kim thinks of a number.
He adds 5; he then multiplies the result by his original number.
The answer is 456.

Find the number that Kim is thinking of.
Show all your trials. Two trials have been done for you.

*You may not
need all
the rows in
the table.*

Number	Number + 5	Calculation	Decision
10	15	$10 \times 15 = 150$	Too small
26	31	$26 \times 31 = 806$	Too large

Kim's number is [3]

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