

Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS  
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

**B274B**

**MATHEMATICS C  
(GRADUATED ASSESSMENT)**

**MODULE M4 – SECTION B**

**MONDAY 21 JUNE 2010: Afternoon**

**DURATION: 30 minutes**

**SUITABLE FOR VISUALLY IMPAIRED CANDIDATES**

**Candidates answer on the Question Paper**

**OCR SUPPLIED MATERIALS:**

**None**

**OTHER MATERIALS REQUIRED:**

**Geometrical instruments**

**Tracing paper (optional)**

**Electronic calculator**

**READ INSTRUCTIONS OVERLEAF**

## **INSTRUCTIONS TO CANDIDATES**

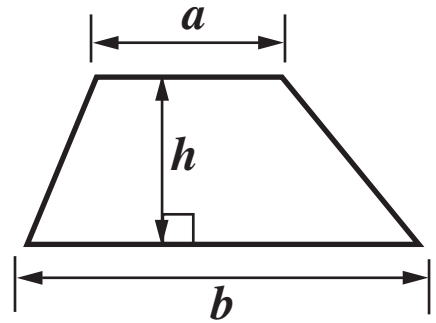
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Answer ALL the questions.
- 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**

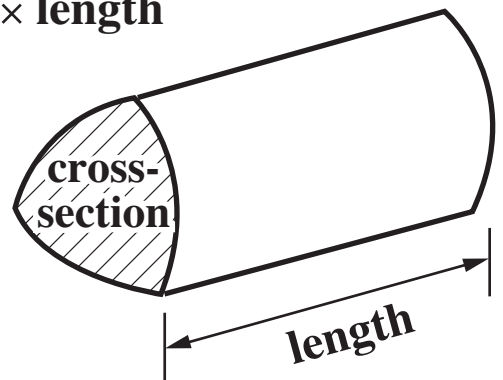
- The number of marks is given in brackets [ ] at the end of each question or part question.
- Section B starts with question 7.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is 25.

## FORMULAE SHEET

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



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



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 marks]

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?**

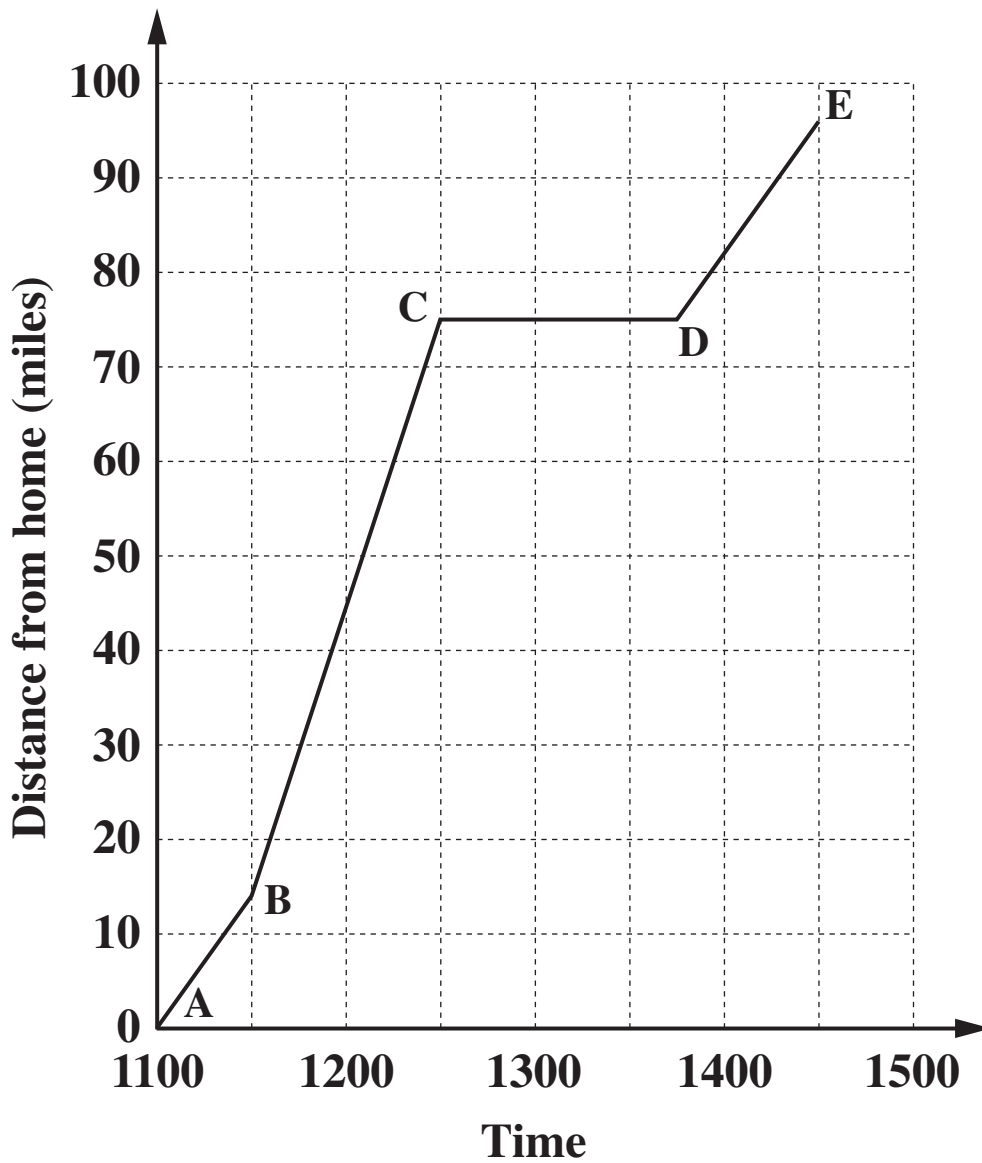
**Explain how you decided.**

**[2 marks]**

**Number of stars = \_\_\_\_\_ because \_\_\_\_\_**

\_\_\_\_\_

- 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?  
[1 mark]

(a)(i) \_\_\_\_\_ miles

**(ii) They stopped on the way for lunch.**

**For how long did they stop?  
[1 mark]**

**(ii) \_\_\_\_\_ hours**

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

**Section \_\_\_\_\_ to \_\_\_\_\_ because \_\_\_\_\_**

\_\_\_\_\_

**(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.  
[2 marks]**

**(b) \_\_\_\_\_ miles per hour**

- (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.  
[3 marks]**

**(c) \_\_\_\_\_ miles**

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

**Roughly, how many gallons is this?  
[1 mark]**

**(d) \_\_\_\_\_**



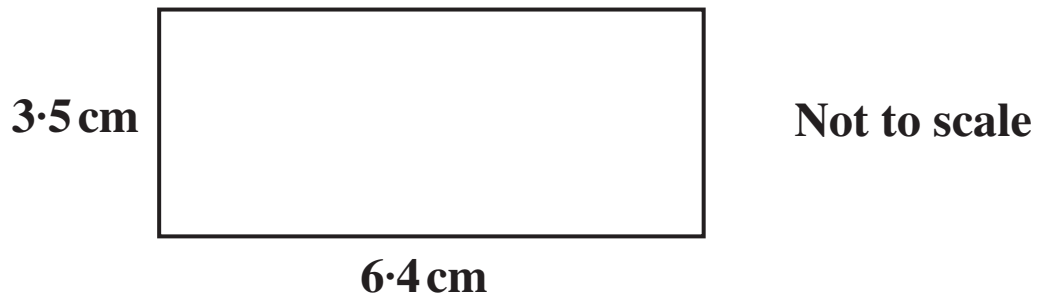
- (e) Their holiday lasted for 7 days.  
They spent £80 per day, plus the cost of renting their  
holiday cottage.  
In total they spent £1050.**

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

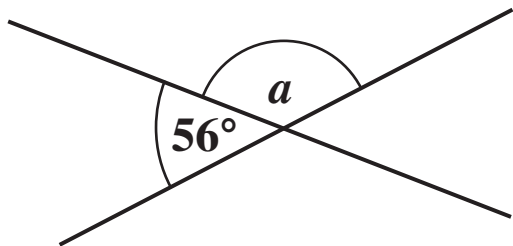
**[3 marks]**

**(e) £ \_\_\_\_\_**

- 9 Calculate the area of this rectangle.  
Give the units of your answer.  
[3 marks]**



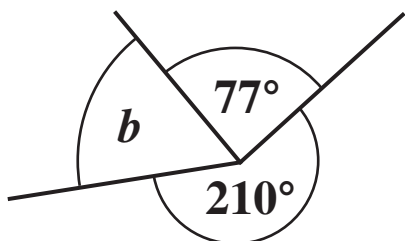
**10 Calculate the angles marked with letters in these diagrams.**



Not to scale

[1 mark]

$$a = \underline{\hspace{2cm}}^\circ$$



Not to scale

[2 marks]

$$b = \underline{\hspace{2cm}}^\circ$$

**11 Kim thinks of a number.**

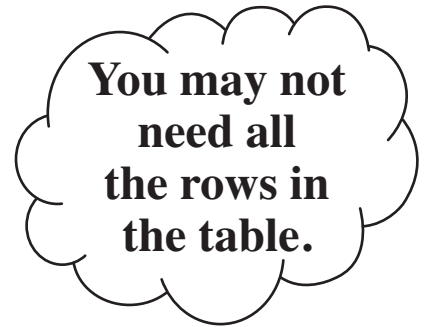
**He adds 5; he then multiplies the result by his original number.**

**The answer is 456.**

**Find the number that Kim is thinking of.**

**Show all your trials. Two trials have been done for you.**

**[3 marks]**



<b>Number</b>	<b>Number + 5</b>	<b>Calculation</b>	<b>Decision</b>
<b>10</b>	<b>15</b>	<b><math>10 \times 15 = 150</math></b>	<b>Too small</b>
<b>26</b>	<b>31</b>	<b><math>26 \times 31 = 806</math></b>	<b>Too large</b>

**Kim's number is \_\_\_\_\_**

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