

**Monday 16 January 2012 – Morning**

**GCSE MATHEMATICS C (GRADUATED ASSESSMENT)**

**B277B MODULE M7 – SECTION B**

Candidates answer on the Question Paper.

**OCR supplied materials:**  
None

- Other materials required:**
- Geometrical instruments
  - Tracing paper (optional)
  - Scientific or graphical calculator

**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, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- 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).
- Do **not** write in the bar codes.

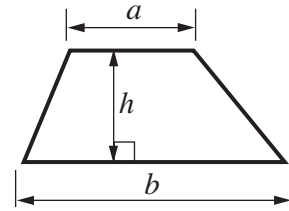
**INFORMATION FOR CANDIDATES**

- The number of marks is given in brackets [ ] at the end of each question or part question.
- Section B starts with question 7.
- You are expected to use a calculator in Section B of this paper.
- Use the  $\pi$  button on your calculator or take  $\pi$  to be 3.142 unless the question says otherwise.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

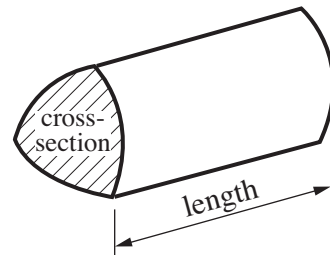
This paper has been pre modified for carrier language

## Formulae Sheet

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

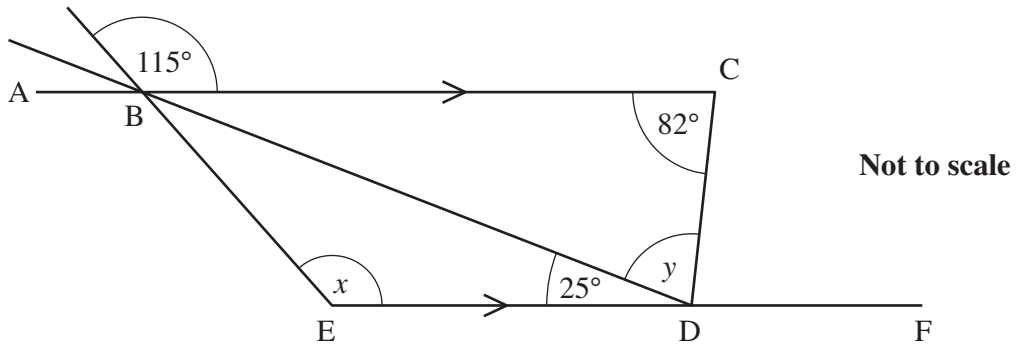


**Volume of prism** = (area of cross-section)  $\times$  length



**PLEASE DO NOT WRITE ON THIS PAGE**

7 In the diagram, ABC and EDF are parallel lines.



- (a) Find angle  $x$ .  
Give a reason for your answer.

$x = \dots\dots\dots^\circ$  because  $\dots\dots\dots$   
 $\dots\dots\dots$  [2]

- (b) Work out angle  $y$ .

(b)  $y = \dots\dots\dots^\circ$  [2]

8 A plane takes 3 hours and 30 minutes to fly the 2415 km from London to Moscow.

Calculate the average speed of the plane.

.....km/h [3]

9 (a) Solve.

$$4(2x - 1) = 22$$

(a)..... [3]

(b) Multiply out.

$$(x + 7)(x - 4)$$

(b)..... [2]

(c) Rearrange this formula to make  $p$  the subject.

$$w = 5p - 3$$

(c)..... [2]

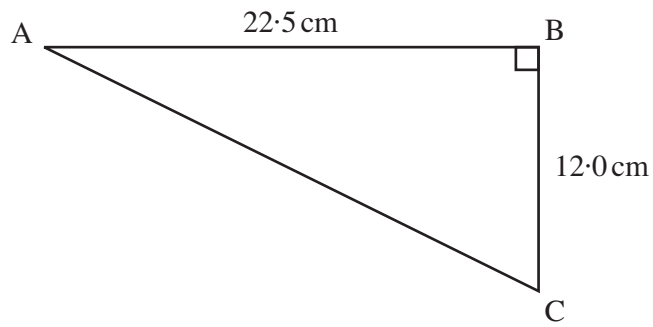
10 The table summarises the monthly mortgage payments,  $\pounds p$ , of 100 households.

Mortgage payment, $\pounds p$	Frequency
$500 < p \leq 600$	10
$600 < p \leq 700$	26
$700 < p \leq 800$	30
$800 < p \leq 900$	25
$900 < p \leq 1000$	9

Calculate an estimate of the mean monthly payment.

$\pounds$  ..... [4]

11 ABC is a right-angled triangle.



Not to scale

Calculate AC.

..... cm [3]

**TURN OVER FOR QUESTION 12**

12 Derek is flying to Athens and is considering the cost of flights offered by two companies.

**Betterfly**  
Athens flights  
Normal fare £240

Special offer  
Tickets reduced by 12%

**Flyme**  
Athens flights  
Normal fare £250

Special offer  
Tickets reduced by 15%

Which company will be cheaper for Derek, and by how much?



..... is cheaper by £..... [4]

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