

**GENERAL CERTIFICATE OF SECONDARY EDUCATION**  
**MATHEMATICS C (GRADUATED ASSESSMENT)**  
MODULE M6 – SECTION A

**B276A**

Candidates answer on the question paper

**OCR Supplied Materials:**

None

**Other Materials Required:**

- Geometrical instruments
- Tracing paper (optional)

**Tuesday 20 January 2009**  
**Morning**

**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, however additional paper may be used if necessary.

**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**.
- This document consists of **8** pages. Any blank pages are indicated.

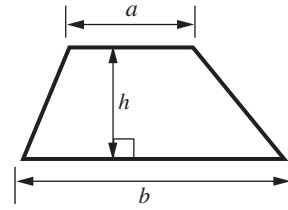
**WARNING**

No calculator can be used for Section A of this paper

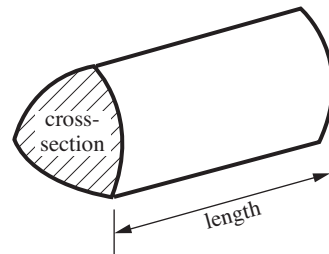
FOR EXAMINER'S USE	
<b>SECTION A</b>	
<b>SECTION B</b>	
<b>TOTAL</b>	

## 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 (a) Work out.

(i)  $3 \times 5^2 + 4 \times 5$

(a)(i) ..... [2]

(ii)  $\frac{3}{5} \div \frac{7}{8}$

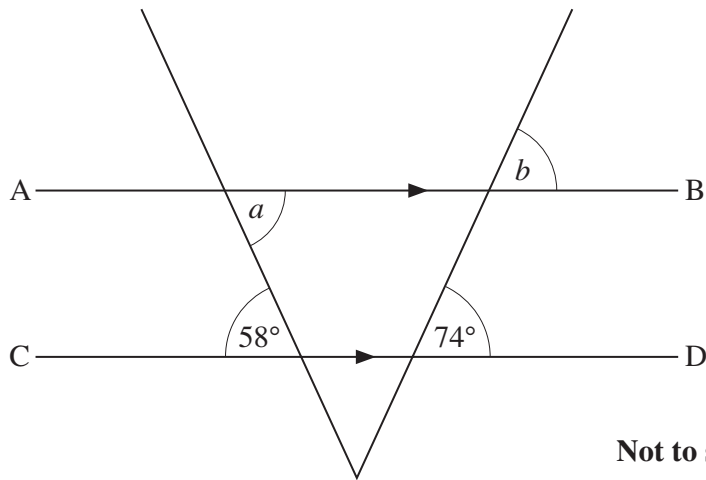
(ii) ..... [2]

(b) Write as a decimal.

$\frac{4}{5}$

(b) ..... [2]

2 In the diagram, AB is parallel to CD.



Complete each of these sentences by giving a reason.

Angle  $a = 58^\circ$  because .....  
 ..... [1]

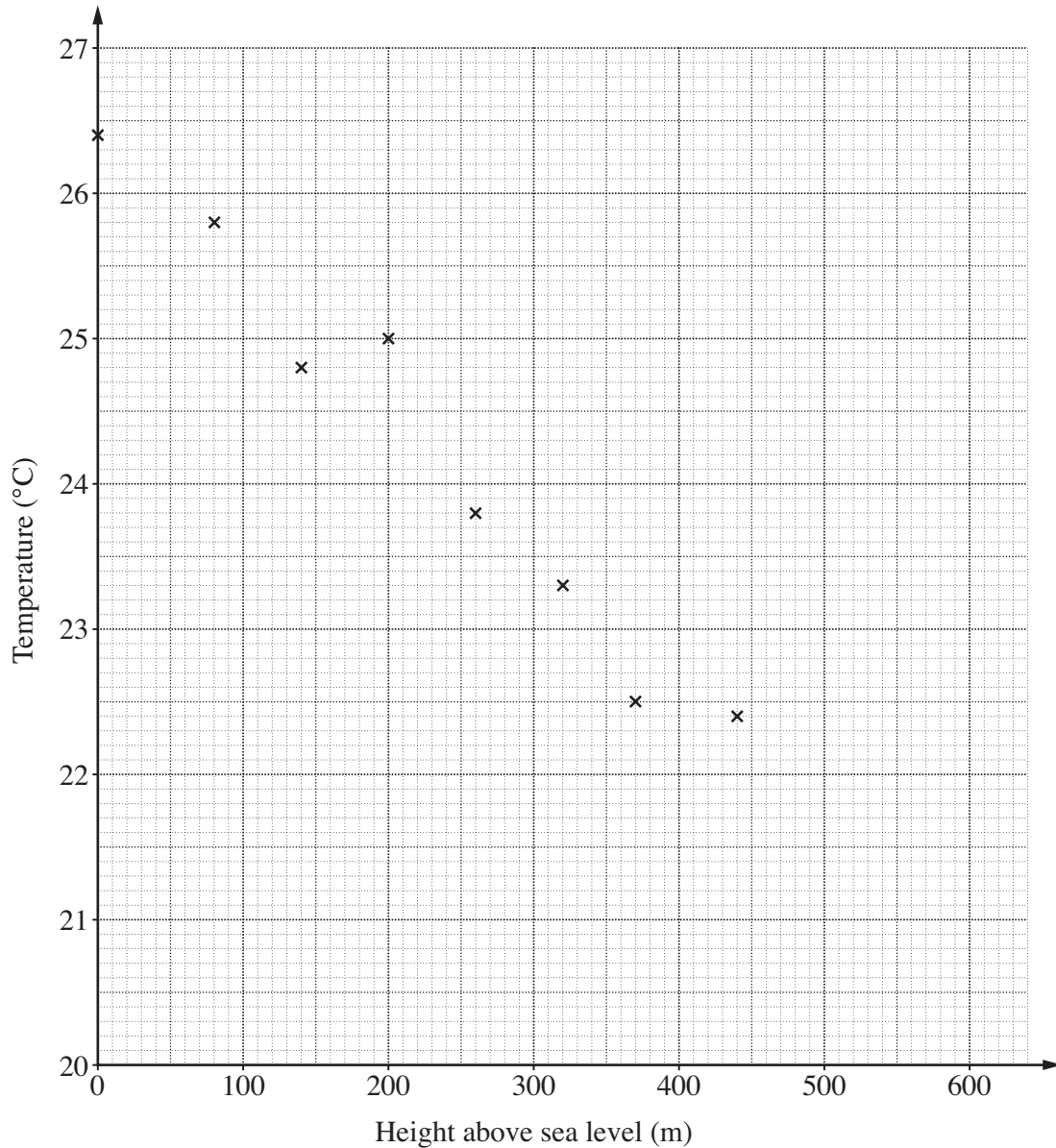
Angle  $b = 74^\circ$  because .....  
 ..... [1]

3 Samit walks up a hill.

The table shows the temperature, in  $^{\circ}\text{C}$ , at various heights.

Height (m)	0	80	140	200	260	320	370	440	520	600
Temperature ( $^{\circ}\text{C}$ )	26.4	25.8	24.8	25.0	23.8	23.3	22.5	22.4	21.0	20.5

The first eight points have been plotted on the scatter diagram.



(a) Complete the scatter diagram.

[1]

(b) Describe the correlation shown in this diagram.

..... [1]

- (c) Draw a line of best fit. [1]
- (d) Use your line to estimate the temperature at a height of 500 m.  
Give your answer correct to one decimal place.

(d) .....°C [1]

- 4 (a) Expand.

$$3(x - 5)$$

(a) ..... [1]

- (b) Solve.

(i)  $4x - 3 = 7$

(b)(i) ..... [2]

(ii)  $5x + 10 = 3x + 4$

(ii) ..... [3]

- 5 (a) Bill is making 600 kg of mortar.  
He mixes sand and cement in the ratio 4 : 1.

What weight of cement does he need?

(a) ..... kg [2]

- (b) Bill is ordering sand and cement for another job.  
Here is his order.

2.5 tonnes of sand at £32.30 per tonne

10 bags of cement at £3.40 per bag

Calculate the total cost of his order.

(b) £ ..... [5]

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