

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**  
**General Certificate of Secondary Education**

**MATHEMATICS C**  
**(Graduated Assessment)**



**1966/2334B**

**MODULE M4 – SECTION B**

Wednesday **29 JUNE 2005** Morning 30 minutes

Candidates answer on the question paper.

Additional materials:

- Geometrical instruments
- Tracing paper (optional)
- Electronic calculator

Candidate  
Name

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Centre  
Number

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Candidate  
Number

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**TIME** 30 minutes

**INSTRUCTIONS TO CANDIDATES**

- Write your name, Centre number and candidate number in the boxes above.
- Answer **all** the questions.
- Write your answers on the dotted lines unless the question says otherwise.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- There is a space after most questions. Use it to do your working. In many questions marks will be given for a correct method even if the answer is incorrect.
- Do not write in the bar code. Do not write in the grey area between the pages.
- **DO NOT WRITE IN THE AREA OUTSIDE THE BOX BORDERING EACH PAGE. ANY WRITING IN THIS AREA WILL NOT BE MARKED.**

**INFORMATION FOR CANDIDATES**

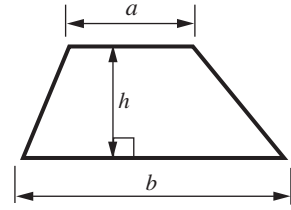
- You are expected to use a calculator in Section B of this paper.
- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this Section is 25.
- Section B starts with question 8.

<b>FOR EXAMINER'S USE</b>	
<b>Section B</b>	

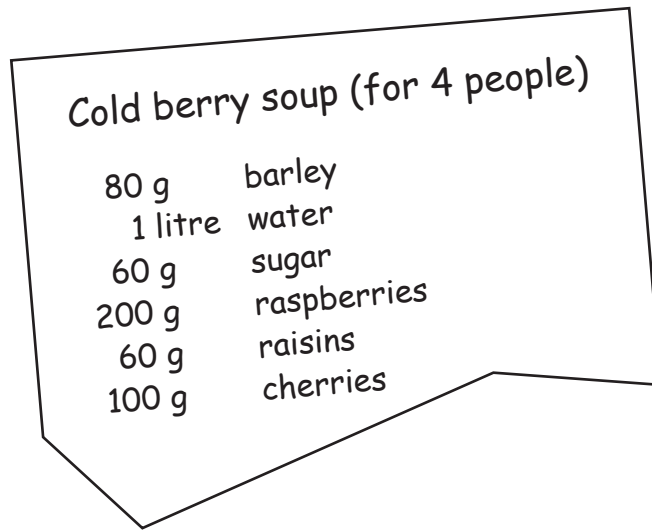
**This question paper consists of 8 printed pages.**

## Formula Sheet

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



- 8 This is a recipe for cold berry soup.  
It makes soup for 4 people.



- (a) How much barley do you need to make soup for 12 people?

(a) .....g [1]

- (b) Pat uses 50g of cherries to make this soup.

How many people is it for?

(b) .....[1]

- (c) How much sugar is needed to make soup for 10 people?

(c) .....g [1]

9 (a) This table shows equivalent UK and European shoe sizes.

UK shoe size ( $u$ )	1	2	3	4	5
European shoe size ( $e$ )	33	34	35	$36\frac{1}{2}$	$37\frac{1}{2}$

Amy writes down this formula connecting UK shoe size ( $u$ ) and European shoe size ( $e$ ).

$$e = u + 32$$

Does her formula work for all of these sizes?  
Explain how you decide.

..... because .....  
.....[2]

(b) This table shows equivalent UK and American shoe sizes.

UK shoe size ( $u$ )	1	2	3	4	5
American shoe size ( $a$ )	$2\frac{1}{2}$	$3\frac{1}{2}$	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$

Write down a formula connecting UK shoe size ( $u$ ) and American shoe size ( $a$ ).

(b) .....[2]

(c) Here is a formula connecting European shoe size ( $e$ ) and foot length ( $f$ ), in centimetres.

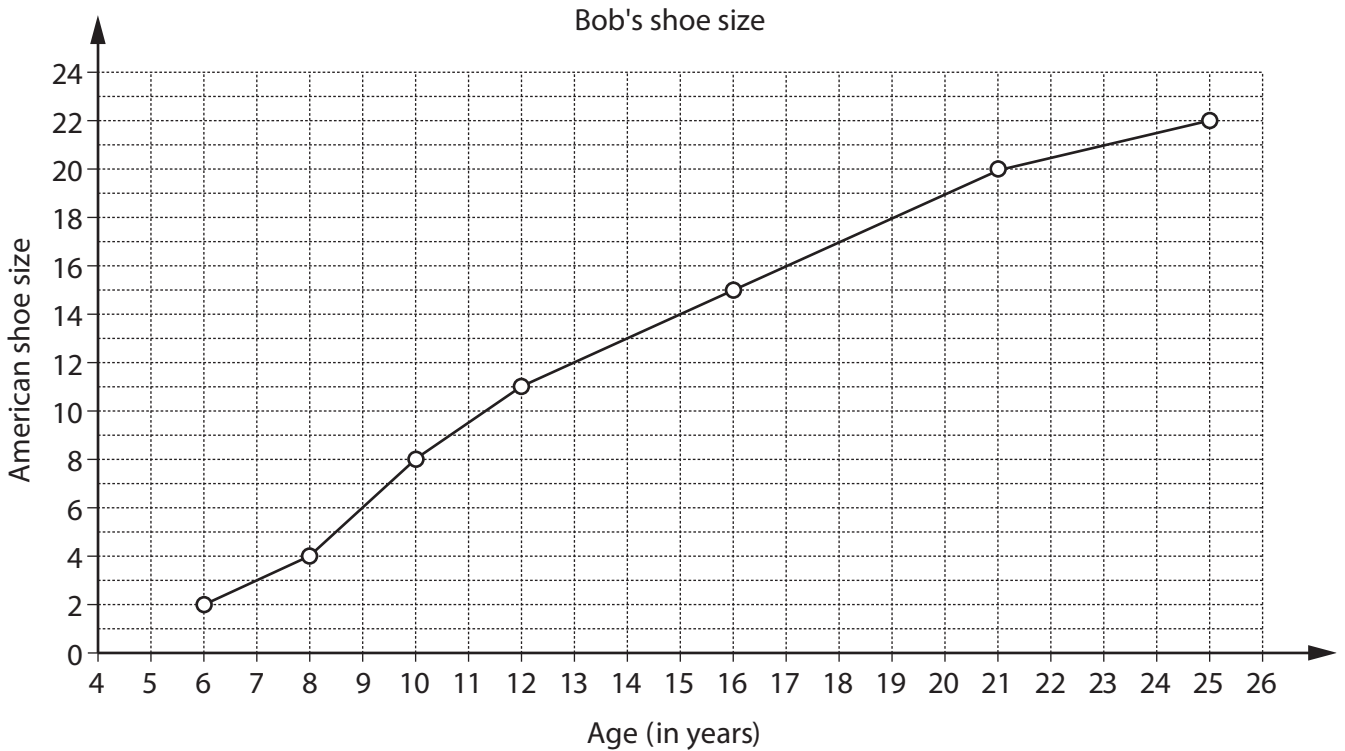
$$f = 0.67e$$

Hani takes a European size 35.

Work out her foot length.

(c) .....cm [2]

- (d) Bob is a professional American basketball player.  
The graph below shows how his shoe size changed as he grew up.



- (i) How old was Bob when he had shoe size 15?

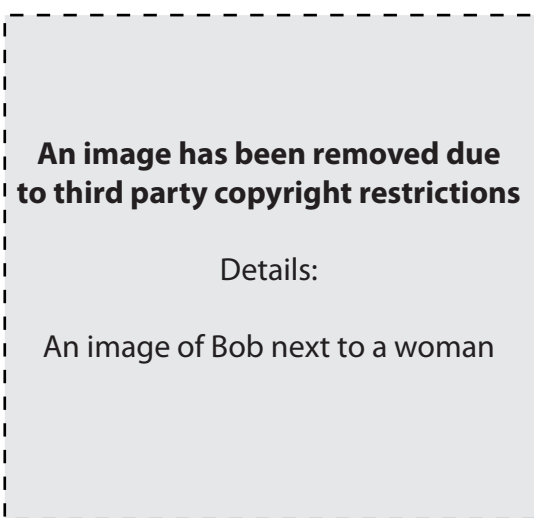
(d)(i) .....[1]

- (ii) An increase in shoe size of one means an increase in foot length of 9 mm.

By how many millimetres did Bob's foot length increase between age 8 and age 16?

(ii) .....mm [2]

- (e)



This picture shows Bob beside a woman.  
She is 1.6 m tall.

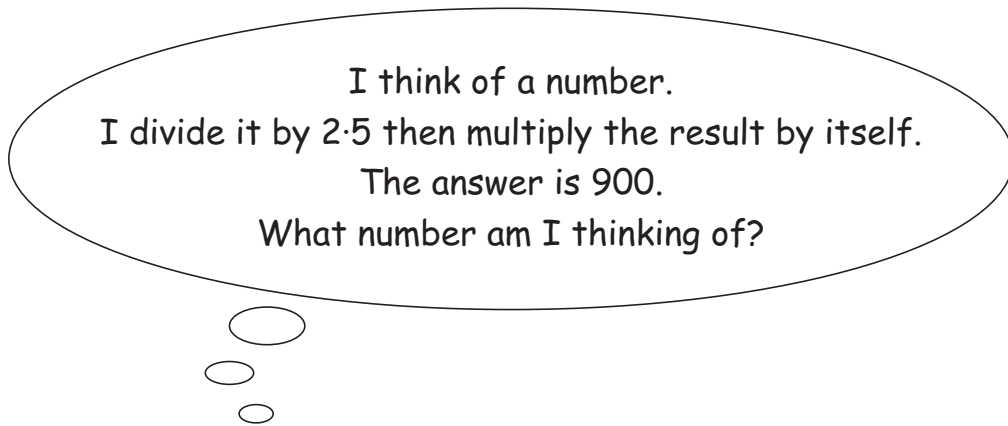
Estimate Bob's height in metres.

(e) .....m [1]

10
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[Turn over

10 Solve this number puzzle using trial and improvement.



The first two trials have been done for you.  
Show all your working.  
You may not need to use all the lines.

Trial	Working		Too small	Too large
30	$30 \div 2.5 = 12$	$12 \times 12 = 144$	✓	
90	$90 \div 2.5 = 36$	$36 \times 36 = 1296$		✓

.....[3]

3	
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11 (a)



The shoe sizes of the eight girls in a basketball squad are shown below.

4 5 5 6 6 6 7 7

One of the girls is chosen at random.

What is the probability that her shoe size is

(i) 7,

(a)(i) .....[1]

(ii) 4 or 5,

(ii) .....[1]

(iii) greater than 5?

(iii) .....[1]

(b) Amber plays for her college basketball squad.

Here are the number of points she has scored in her last five games.

12 9 0 17 12

(i) Find the range of Amber's scores.

(b)(i) .....[1]

(ii) Work out her mean score for the five games.

(ii) .....[3]

7
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12 The fathom is an old unit used to measure depths at sea.

The average depth of the Pacific Ocean is 2340 fathoms.

A fathom is 6 feet.

One foot is 0.305 metres.

What is 2340 fathoms in metres?



.....m [2]

2
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