

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

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

**1966/2342B**

**INTERMEDIATE TERMINAL PAPER – SECTION B**

Tuesday

**8 JUNE 2004**

Afternoon

1 hour

Candidates answer on the question paper.

Additional materials:

Geometrical instruments

Tracing paper (optional)

Pie chart scale (optional)

Scientific or graphical calculator

Candidate Name

Centre Number

Candidate  
Number

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**TIME** 1 hour

**INSTRUCTIONS TO CANDIDATES**

- Write your name, Centre number and candidate number in the boxes above.
- Answer **all** the questions.
- Write your answers, in blue or black ink, on the dotted lines unless the question says otherwise.
- 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.

**INFORMATION FOR CANDIDATES**

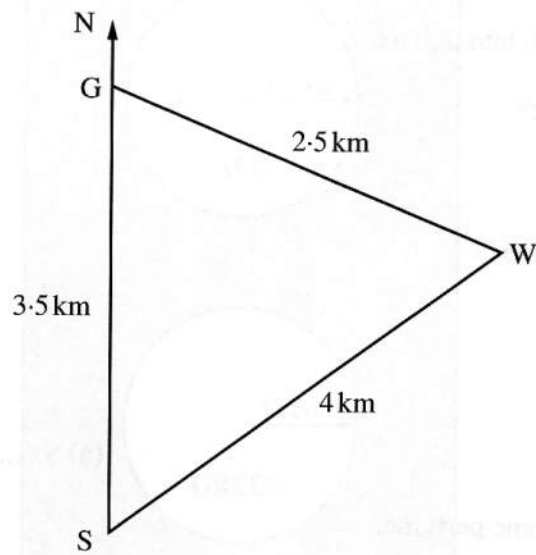
- You are expected to use a calculator in Section B of this paper.
- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this Section is 50.
- Section B starts with question 11.
- Use the  $\pi$  button on your calculator or take  $\pi$  to be 3.142 unless the question says otherwise.

**FOR EXAMINER'S USE**

Section B

**This question paper consists of 10 printed pages and 2 blank pages.**

- 11 The diagram shows the position of three villages, Seatoller(S), Grange(G) and Watendlath(W). Grange is due North of Seatoller.



Not to scale

- (a) Make an accurate scale drawing of triangle SGW.  
Use a scale of **2 cm to 1 km**.

[3]

- (b) Use your drawing to find the bearing of W from G.

(b) .....° [1]

4
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- 12 Pat travelled to America.

The rate of exchange between pounds and dollars was  $\text{£}1 = \$1.565$ .

- (a) Before she went she changed  $\text{£}240$  into dollars.

How many dollars did she receive?

(a) \$ .....[2]

- (b) While in New York she bought some perfume.

The perfume cost  $\$28.17$ .

The same perfume cost  $\text{£}22.50$  in England.

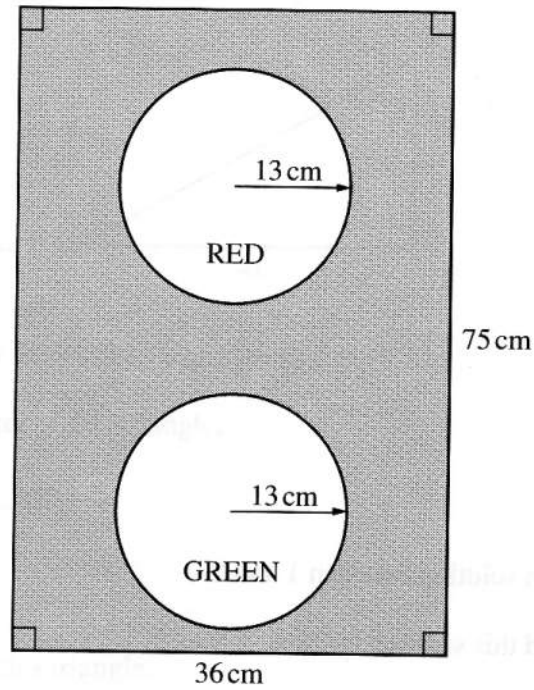
How much less did the perfume cost in New York?

Give your answer in pounds.

(b) £ .....[3]

5	
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13



Not to scale

The diagram shows some lights at a pedestrian crossing.  
 Each light is a circle of radius 13 cm.  
 The lights are set in a rectangle 36 cm by 75 cm.

Calculate the shaded area.

.....[5]

5
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14 (a) Solve.

(i)  $4x - 5 = 17$

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

(ii)  $\frac{x}{4} = 12$

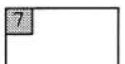
(ii) .....[1]

(b) The equation  $x^3 - x - 3 = 0$  has a solution between 1 and 2.

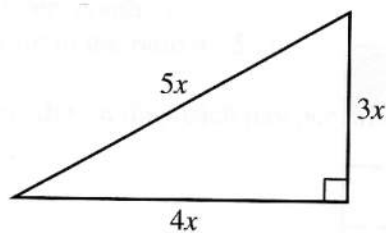
Use trial and improvement to find this solution correct to two decimal places.

You must show all your trials and their outcomes.

(b) .....[4]



- 15 The diagram shows a right-angled triangle.



Not to scale

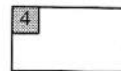
Write, as simply as possible, expressions for

- (a) the perimeter of this triangle,

(a) .....[2]

- (b) the area of this triangle.

(b) .....[2]



- 16 (a) Calculate.

$$\sqrt{2 \cdot 65^3 - 4 \cdot 28^2}$$

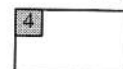
Give your answer correct to two significant figures.

(a) .....[2]

- (b) Calculate.

$$\frac{1.8 \times 10^9 - 5.2 \times 10^8}{1.6 \times 10^{11}}$$

(b) .....[2]



- 17 Imran keeps a record of how late his train is on each of 60 days. His results are summarised in the table below.

Minutes late ( $t$ )	Frequency
$0 \leq t < 10$	35
$10 \leq t < 20$	15
$20 \leq t < 30$	5
$30 \leq t < 40$	1
$40 \leq t < 50$	3
$50 \leq t < 60$	1

Calculate an estimate of the mean number of minutes late.

.....minutes [4]

4
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- 18 (a) Brian rents a flat.

In 2002 the rent was £475 per month.

In 2003 the rent was increased by 6%.

How much did Brian pay **for the whole year** in 2003?

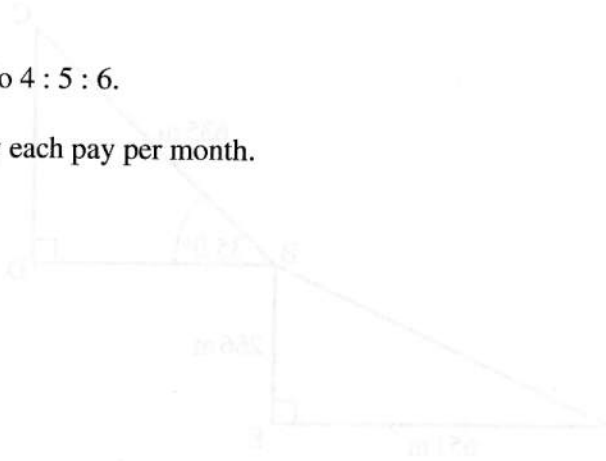
(a) £.....[4]

- (b) Sadia, Natasha and Heather share a house.

The rent is £825 per month.

They share the rent in the ratio 4 : 5 : 6.

Work out how much rent they each pay per month.



(b) Sadia £ .....

Natasha £ .....

Heather £ .....[3]

- (c) Jane bought a house in 1999.

In 2003 she sold it for £324 000.

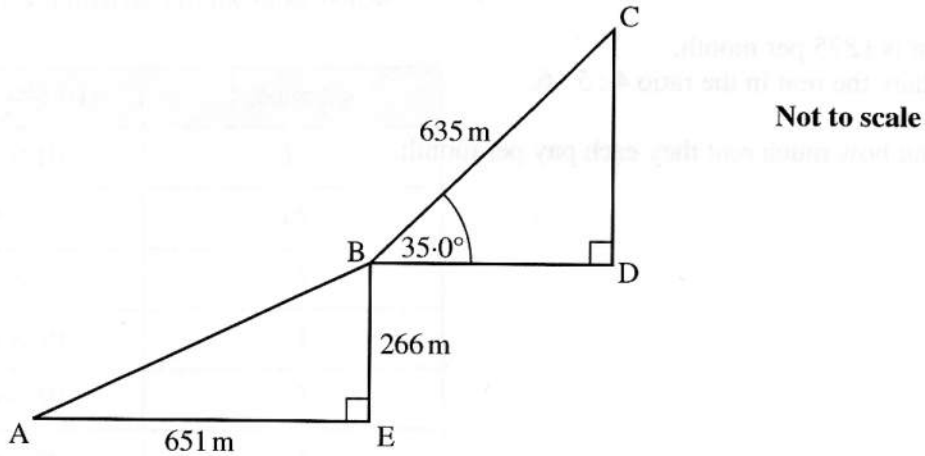
The value had increased by 35%.

Calculate how much she paid for the house.

(c) £..... [3]

10
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The diagram shows two stages, AB and BC, of a ski lift.

AE = 651 m, BE = 266 m, BC = 635 m and angle DBC =  $35.0^\circ$ .

(a) Calculate angle BAE.

(a) ..... $^\circ$  [3]

(b) Calculate the distance CD.

Give your answer to a sensible degree of accuracy.

(b) .....m [4]

7
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