

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

THURSDAY 20 JANUARY 2011: Morning

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

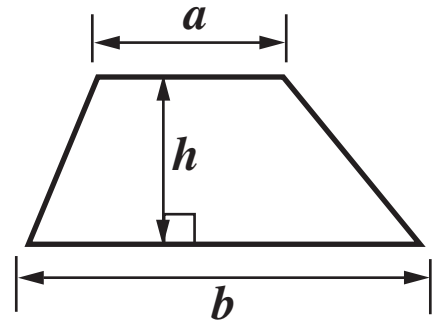
- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **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).**
- **Answer ALL the questions.**

INFORMATION FOR CANDIDATES

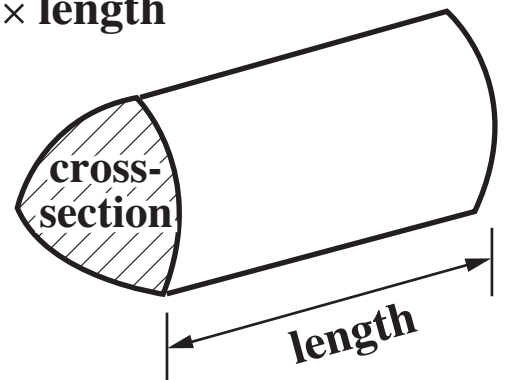
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **Section B starts with question 5.**
- **You are expected to use a calculator in Section B of this paper.**
- **The total number of marks for this Section is 25.**

Formulae Sheet

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



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



5 This mixture can be used to cure dehydration.

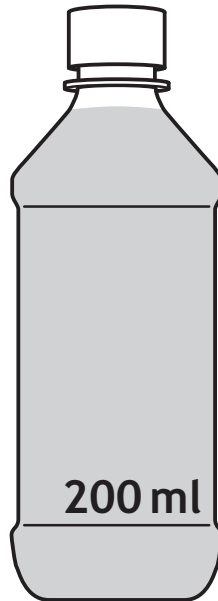
<p>1 g of salt 8 g of sugar 200 ml of water</p>

(a) How much salt should be mixed with 1 litre of water?

(a) _____ g [2]

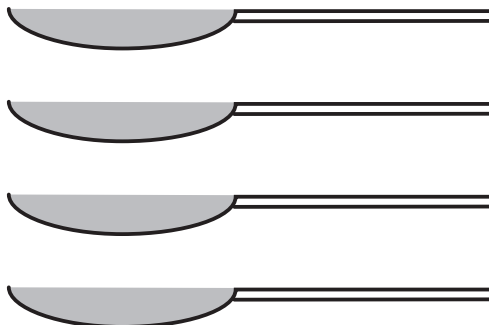
- (b) Aid workers are making a leaflet about the mixture. They have shaded the sugar spoons to show the amount needed.

Shade the salt spoon to show the amount of salt needed.



Water

+



Sugar

+



Salt

[1]

6 Anil wants to find out how much bottled water costs compared with tap water.

He visits several shops to find the prices for a litre of bottled water.

Here are his results in pence.

22 25 33 41 45

48 65 73 82 96

(a) Work out the range of the prices.

(a) _____ p [1]

(b) Calculate the mean price for a litre of bottled water.

(b) _____ p [3]

(c) Anil sees this in a magazine.

**tap
water
is, on
average,
500 times
cheaper than
bottled water.**

He checks on a water website.

Metered water charges for households 2008–09		
	Volume charge per litre	
	0.110p	

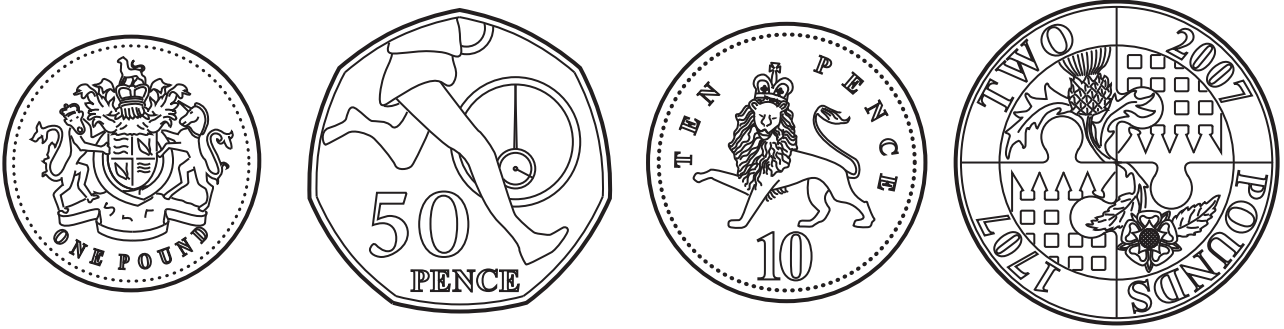
**Is the magazine statement true?
Show all your working.**

(c) _____ [3]

7 **Andy went shopping.
Here is his till receipt.
The corner has been torn off.**

LALDI STORES	BLUE STREET BIRKENHEAD
ORANGES	0-69
SKIMMED MILK 2 PINTS	0-78
JUST CRUMPETS	0-59
SOYA DRINK 1 LITRE	0-69
CREAM CRACKERS	0-33
FABRIC CONDITIONER	0-99
KIWI FRUIT	0-69
SARDINES	0-32
BOTTLE WATER	
BOTTLE WATER	
BOTTLE WATER	
BOTTLE WATER	
TOTAL	

**Andy paid with a £10 note.
This is his change.**

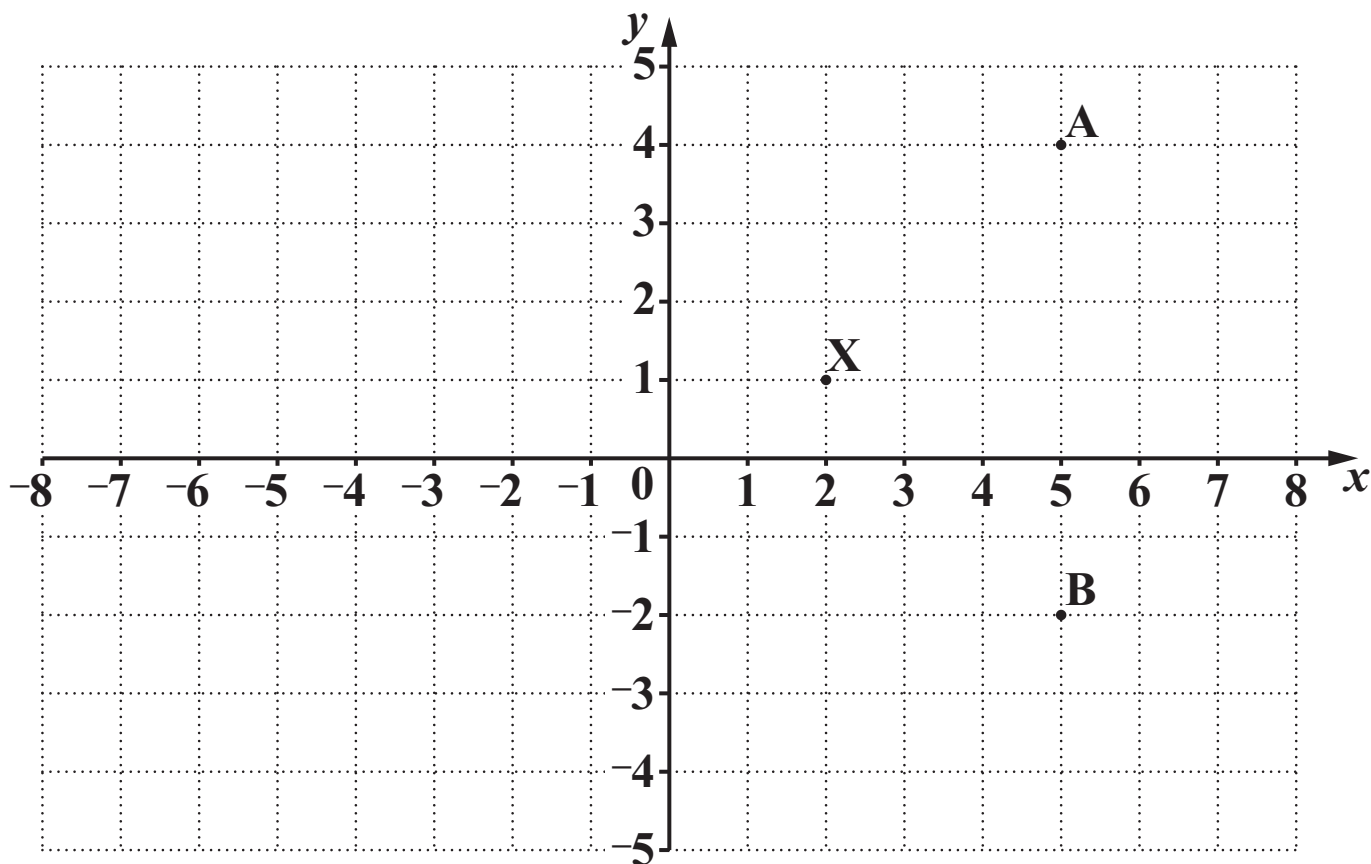


He bought 4 bottles of water.

**What was the cost of ONE bottle of water?
Show how you got your answer.**

£ _____ [4]

- 8 X marks the centre of a square.
Two corners of the square are at A and B.**



- (a) Write down the coordinates of X, the centre of the square.**

(a) (_____ , _____) [1]

- (b) Plot and label C and D, the other two corners of the square.
Write down the coordinates of C and D.**

(b) C (_____ , _____)

D (_____ , _____) [2]

9 One of the world's biggest LCD TV screens measures 2.36 m wide by 1.35 m tall.

(a) What is the area of the screen?

(a) _____ m² [2]

(b) The best distance to sit away from a TV is 1.54 times the width of the screen.

What is the best distance to sit away from this TV?

(b) _____ m [1]

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10 Use numbers from this box to complete the sentences below.

3	4	5	11
18	23	27	30

(a) _____ and _____ are factors of 40. [1]

(b) _____ and _____ are multiples of 6. [1]

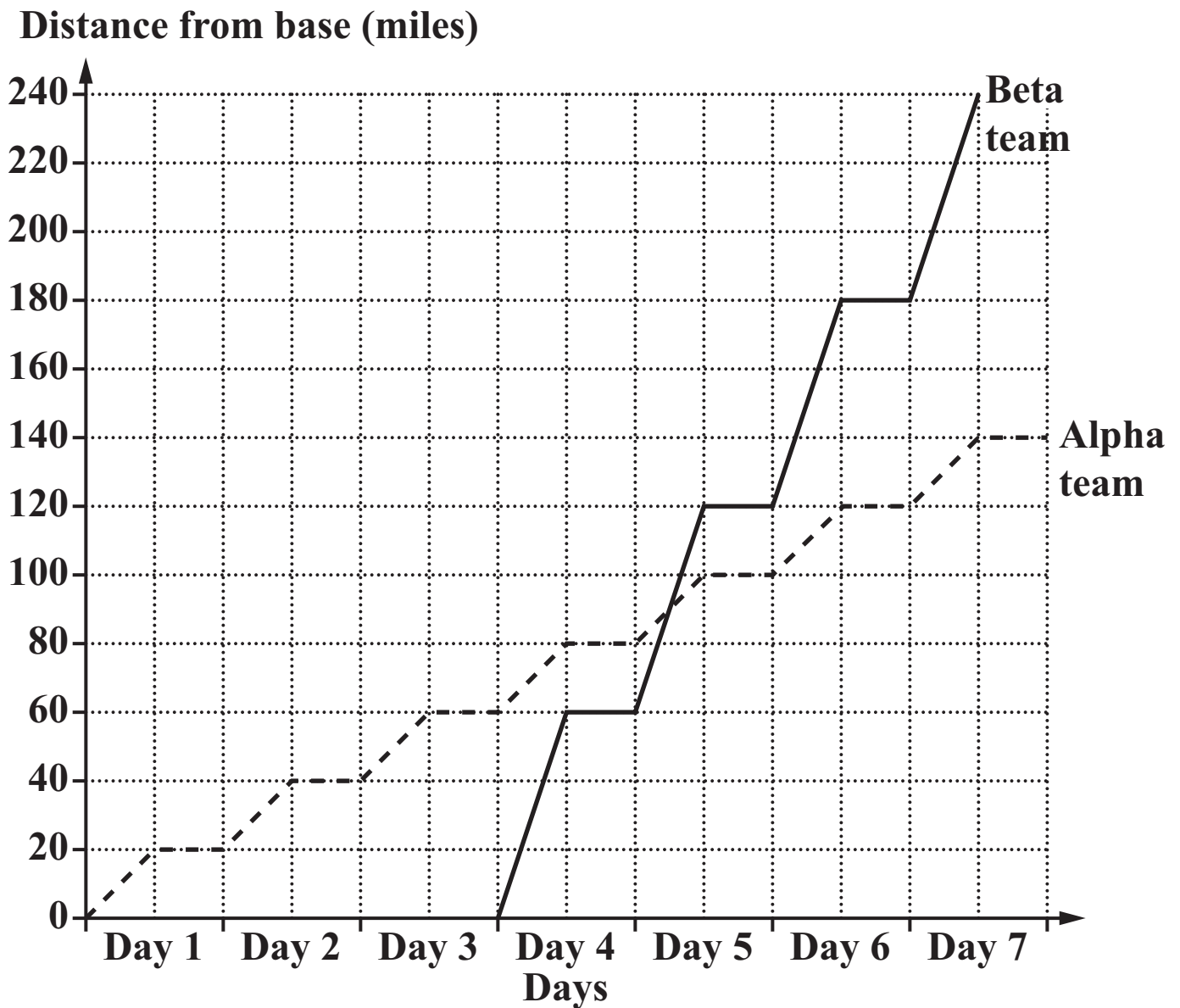
11 In a fantasy game, two teams, Alpha and Beta, have to cross a large desert.

Both teams can only travel for half a day, and then rest for the other half.

Alpha team starts off first from base.

Beta team follows them later.

The distance-time graph for their journeys is shown below.



Complete these sentences with the correct numbers.

Beta team sets off _____ days after Alpha team.

Beta team travels _____ miles each day.

Beta team catches up with Alpha team during

Day _____ .

[3]

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