THIS IS A LEGACY SPECIFICATION

OCR
RECOGNISING ACHIEVEMENT

M4

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT) B274B
MODULE M4 – SECTION B

OCE/T6136

Candidates answer on the question paper.

OCR supplied materials:
None

Other materials required:
- Geometrical instruments
- Tracing paper (optional)
- Electronic calculator

Thursday 20 January 2011
Morning

Duration: 30 minutes

B274B

Candidate forename		Candidate surname	

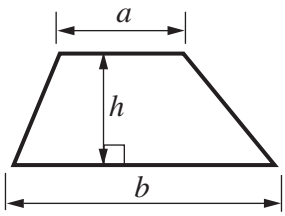
Centre number						Candidate number				

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. 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.
- Do **not** write in the bar codes.

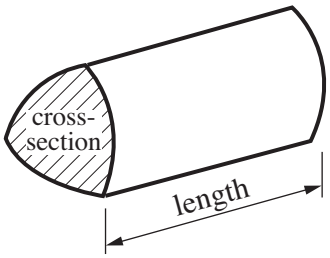
INFORMATION FOR CANDIDATES
- The number of marks is given in brackets **[ ]** at the end of each question or part question.
- Section B starts with question 5.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **12** pages. Any blank pages are indicated.

Formulae Sheet

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



Volume of prism = (area of cross-section) × length



PLEASE DO NOT WRITE ON THIS PAGE

5 This mixture can be used to cure dehydration.

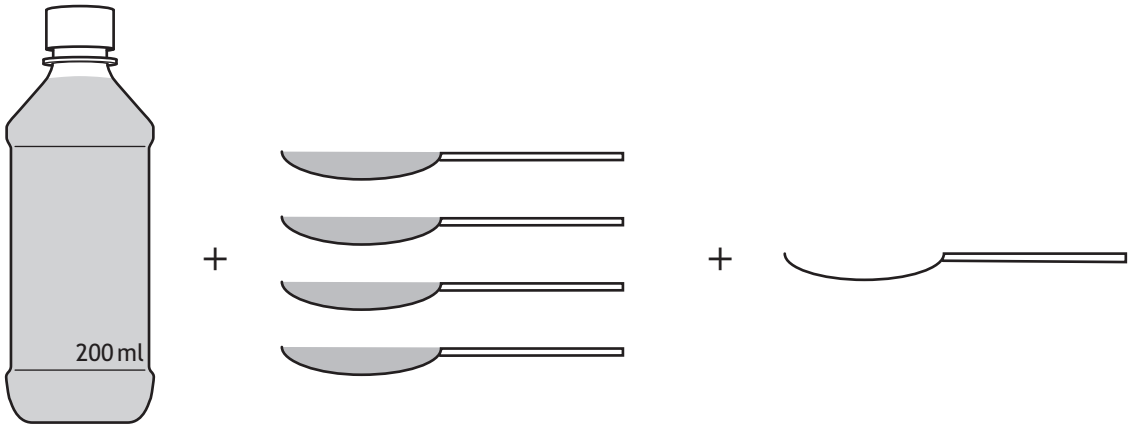
1 g of salt
8 g of sugar
200 ml of water

(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

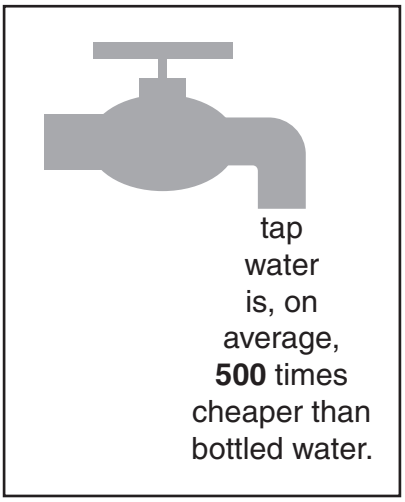
(a) Work out the range of the prices.

(a)..... p **[1]**

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

(b) ..... p **[3]**

(c) Anil sees this in a magazine.



He checks on a water website.

Metered water charges for households 2008–09

rge	Volume charge per litre	Avera
	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	

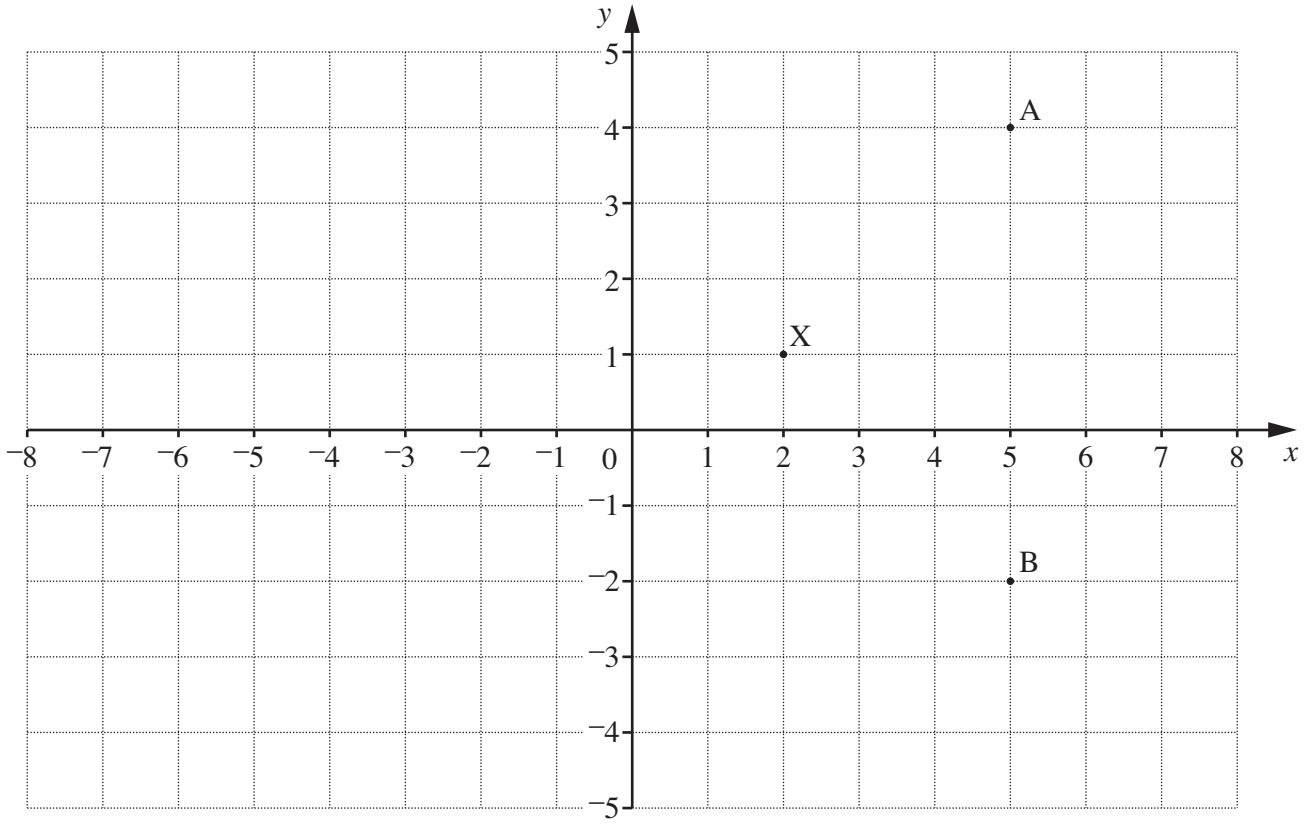
Andy paid with a £10 note.
This is his change.

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.

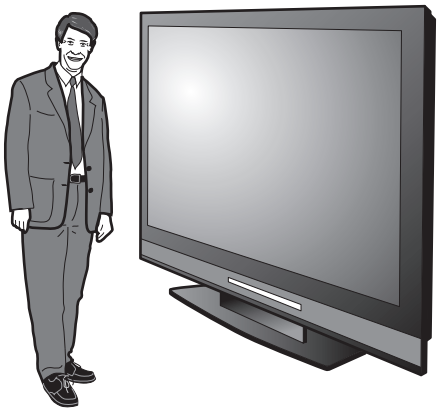
(a) (..... , ...) **[1]**

(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) ..... m^2 **[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]**

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

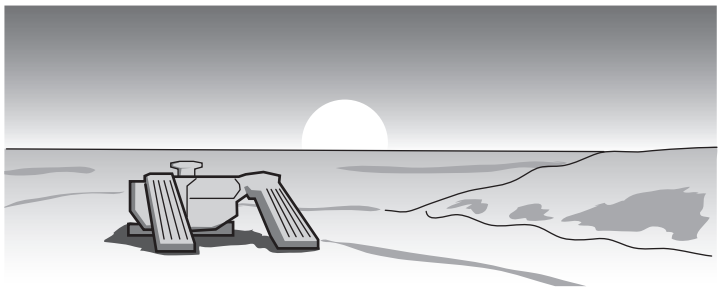
3	4	5	11
18	23	27	30

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

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

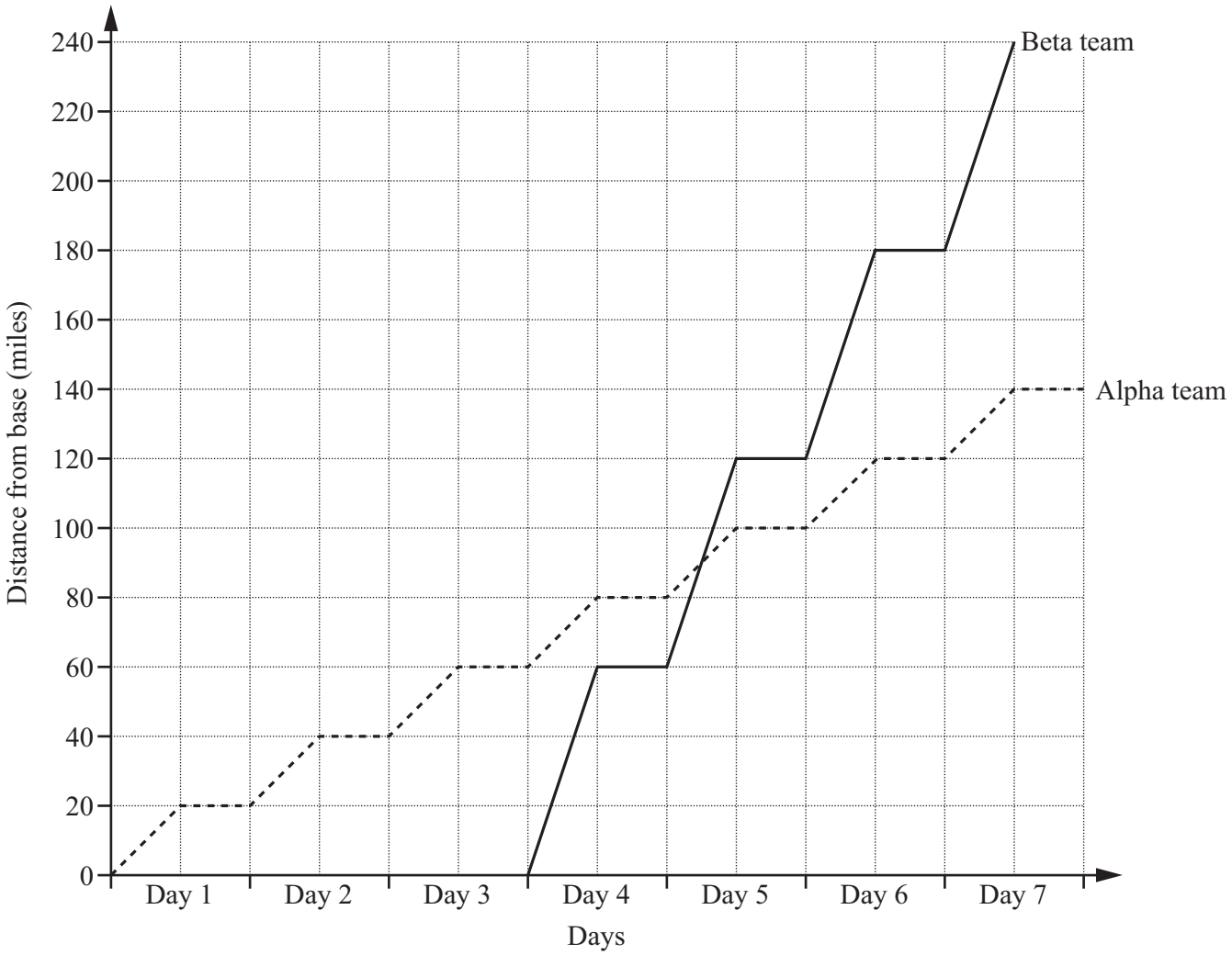
TURN OVER FOR QUESTION 11

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]**

BLANK PAGE

PLEASE DO NOT WRITE ON THIS PAGE

PLEASE DO NOT WRITE ON THIS PAGE