GCSE

WJEC CBAC

4351/01

MATHEMATICS (UNITISED SCHEME)
UNIT 1: Mathematics in Everyday Life
FOUNDATION TIER

A.M. TUESDAY, 11 June 2013

$1\frac{1}{4}$ hours

Suitable for Modified Language Candidates

ADDITIONAL MATERIALS

A calculator will be required for this paper.

A ruler, a protractor and a pair of compasses may be required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** the questions in the spaces provided.

If you run out of space, use the continuation page at the back of the booklet, taking care to number the question(s) correctly.

Take π as 3·14 or use the π button on your calculator.

INFORMATION FOR CANDIDATES

You should give details of your method of solution when appropriate.

Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

The number of marks is given in brackets at the end of each question or part-question.

You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question **1**.

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1	6	
2	4	
3	4	
4	2	
5	6	
6	3	
7	5	
8	2	
9	5	
10	8	
11	6	
12	5	
13	3	
14	2	
15	4	
TOTAL MARK		

Formula List

Area of trapezium = $\frac{1}{2}(a + b)h$
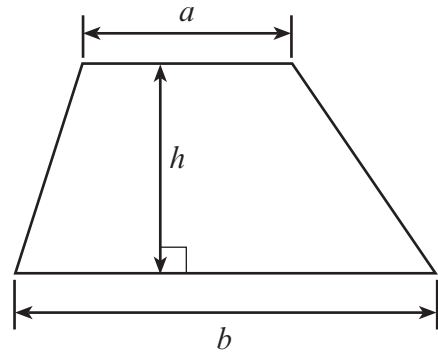
Volume of prism = area of cross-section × length

1. *You will be assessed on the quality of your written communication in this question.*

Sharon has two gift vouchers which she uses when buying items in a store.
One voucher is worth £15 and the other voucher is worth £20.

She buys a scarf for £30 and two bottles of shampoo at £3.99 each.

She uses both her vouchers when paying her total bill. How much extra will she have to pay in cash?

You must show all your working.

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[6]

(4351-01) **Turn over.**

2. The diagram shows a number of cubes forming a solid shape.
The edges of each cube are 1 metre in length.
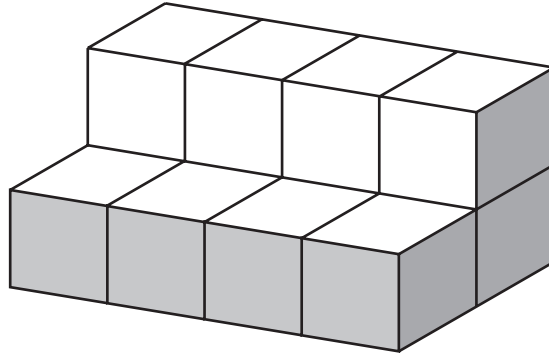
Diagram not drawn to scale

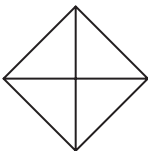*(a)* What is the volume of the shape? You must give the units of your answer.

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[2]

(b) The **two** ends of the shape and the front of the bottom row are painted grey as shown.
What is the area that has been painted? You must give the units of your answer.

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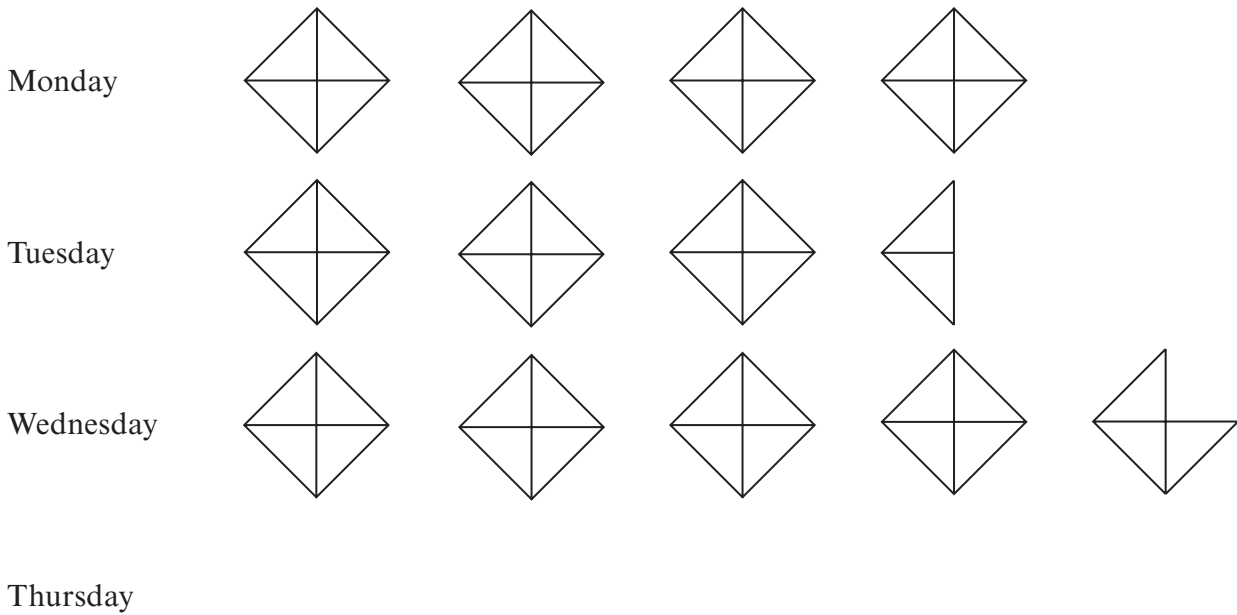
[2]

(4351-01)

3. The owner of a cafe recorded how many lunchtime meals he served over a period of five days. He displayed the results using a pictogram

with representing 20 meals.

The results for the first three days are shown below.

Monday

Tuesday

Wednesday

Thursday

(a) How many meals were served on Monday?

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[1]

(b) How many meals were served on Wednesday?

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[1]

(c) On Thursday, 50 meals were served. Complete the pictogram for Thursday.

[1]

(d) On Friday, he served 62 meals. Explain why the pictogram scale that has been used is not really suitable for showing this.

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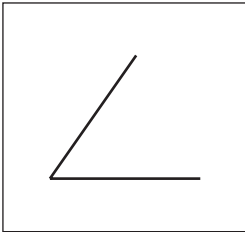
[1]

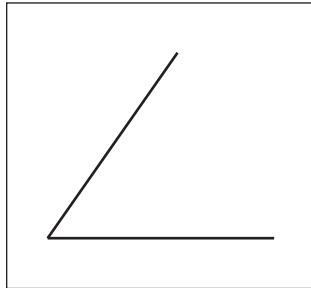**4.** A company's logo is a simple ╱ shape.

The logo can be of any size but
- the two lines **must** be of equal length,
- the angle between the two lines **must** be 55°.

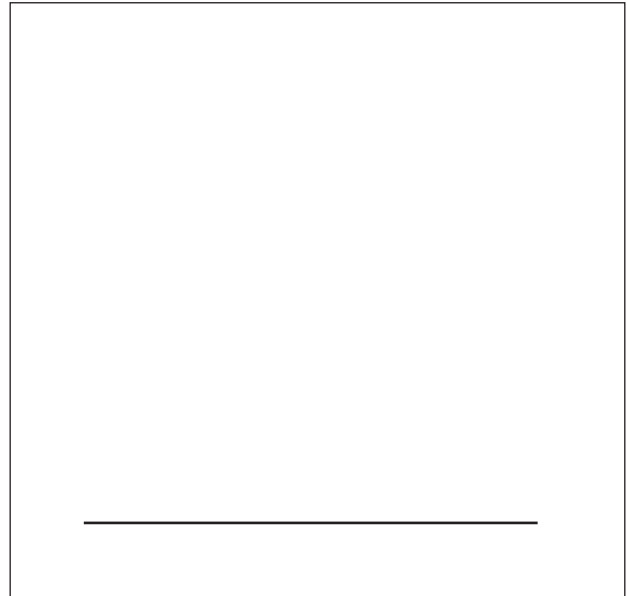Complete the logo for the poster shown as size C.

Size A

Size B

Size C

[2]

5. A landscape gardener is asked by the owner of a caravan park to plant some trees on the site. To work out the total bill, the gardener uses the formula

total bill = time taken in hours × £10 + total cost of the trees.

The gardener bought 24 trees at a price of £5 each.
It took the gardener a quarter of an hour to plant each tree.
Calculate the total bill.

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[6]

(4351-01)

Turn over.

6. Mr and Mrs Khan are beginning to think about their holiday plans for next year. So far they have decided that

- the holiday will be in May or in September,

- it will be in the UK or in Ireland,

- it will be a single location holiday or a touring holiday.

Complete the table below to show **all** the possible combinations they might finally choose. One of the possible combinations has been given for you.

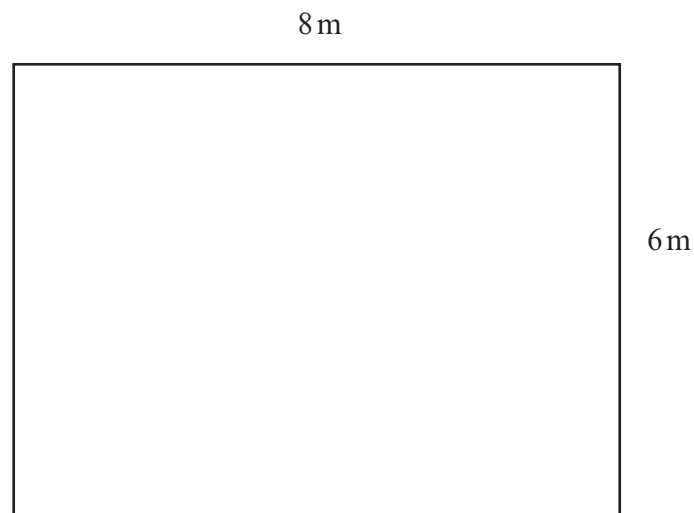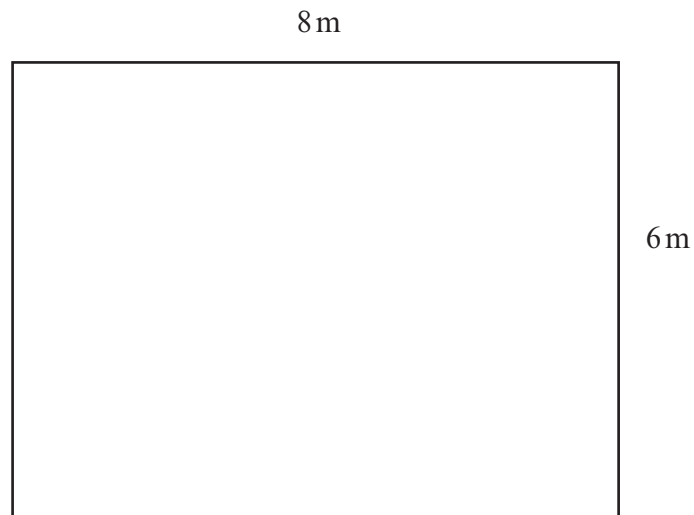| Date	Destination	Type
May	UK	Single location

[3]

7. Rectangular tiles each measure 3 metres by 2 metres.

3 m

2 m
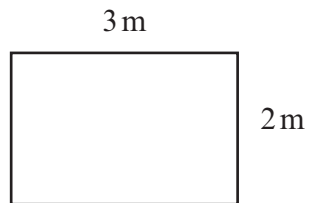
Eight of these tiles are used to completely cover a rectangular floor measuring 8 metres by 6 metres.
No tiles are cut.

By sketching, show two **different ways** that this can be done on the diagrams below.

8 m

6 m

8 m

6 m

[5]

8. *(a)* Write 9·577 correct to two decimal places.

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[1]

(b) Joan is the final competitor in a long jump competition.
Her best jump so far is 6 metres. She has one jump left.

The leading jumper has jumped a distance of 6·3 metres.

Joan says,

"If I jump 4 cm further than my best jump so far, then I'll win".

Is Joan correct or not? You must explain your answer.

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[1]

9. The cost of hiring a concrete mixer is £12 for the first day and then £8 for each additional day.
Alan paid £44 for hiring this concrete mixer.
For how many days did he hire the concrete mixer?

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[5]

10. Amira and Sian travelled by ship to Ireland for a five-day holiday.

(a) Amira exchanged £750 into euros before departing.
The exchange rate was £1 = 1.20 euros.
How many euros did Amira receive?

[2]

(b) On the first night, they stayed at a hotel in Dublin.
Amira had booked online before departing and had paid £85.
Sian paid 96 euros at the hotel.
Calculate the difference **in pounds** between the amounts they each paid.
Use the same exchange rate for your calculation.

[3]

(c) The hotel was 3 km from the port.

(i) How far is this in metres?

[1]

(ii) How far is this in miles? Give your answer correct to the nearest mile.

[2]

11. The following two pieces of information were seen in a cookery magazine.
The information is given in both kilograms (kg) and pounds (lb).

Use 5 kg (11 lb) of apples. Wash and peel them.

Use 2 lb (0·9 kg) of sugar. Warm the sugar before use.

(a) Use the information to draw a conversion graph between kilograms and pounds.

lb

kg

0   1   2   3   4   5   6   7
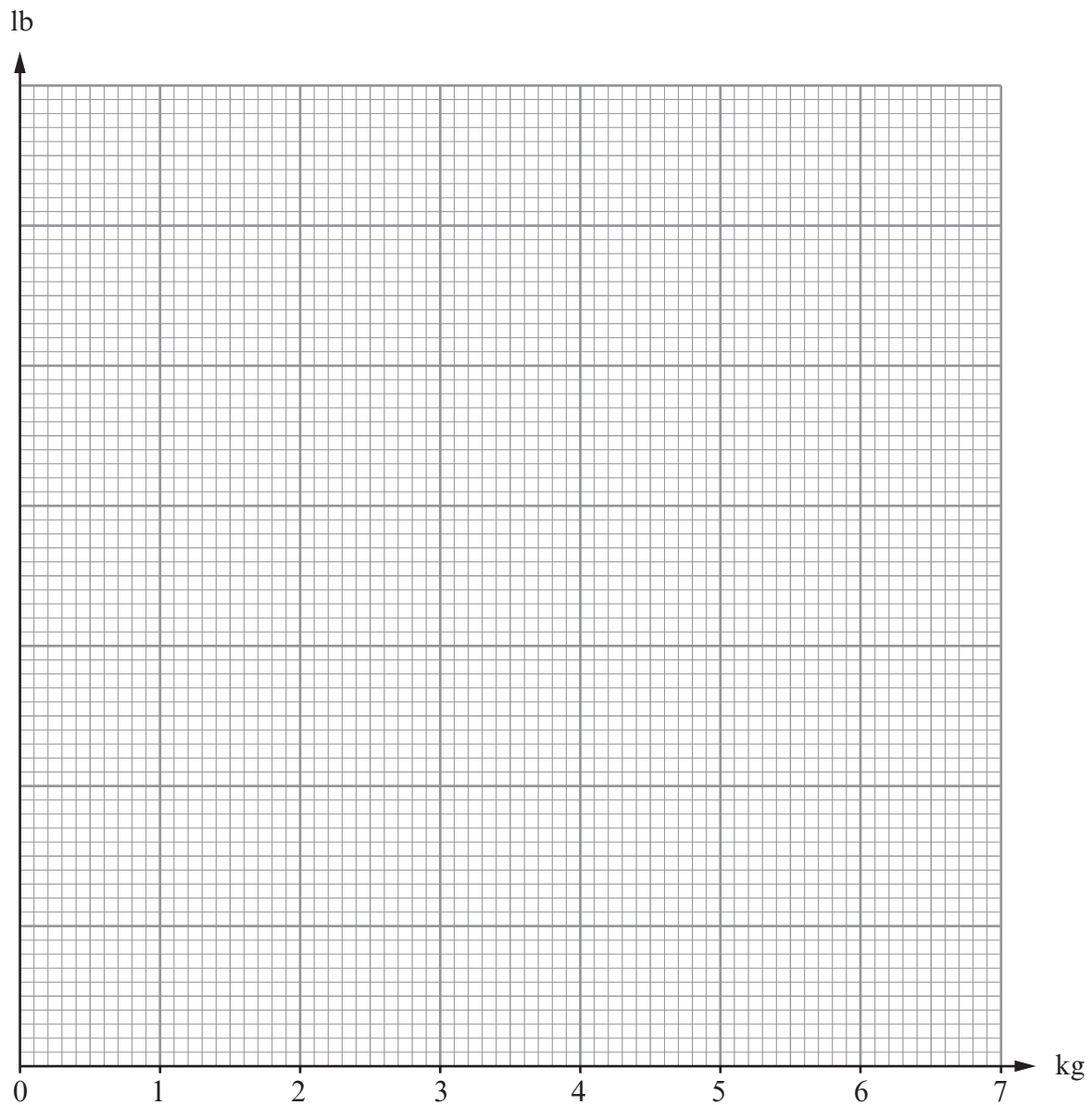
[3]

(b) A person weighs 10 stone. (1 stone = 14 lb.)

Use your graph to estimate the weight of this person in kilograms.
Remember to show the method you have used.

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[3]

(4351-01) **Turn over.**

12. An electricity bill was received for a period of three months.
It showed that 1380 units had been used at a cost of 12·3 pence per unit.
The standing charge for this period was £13.86.
VAT at 5% is payable on the total cost of the units used and the standing charge.

Calculate the total amount to be paid.

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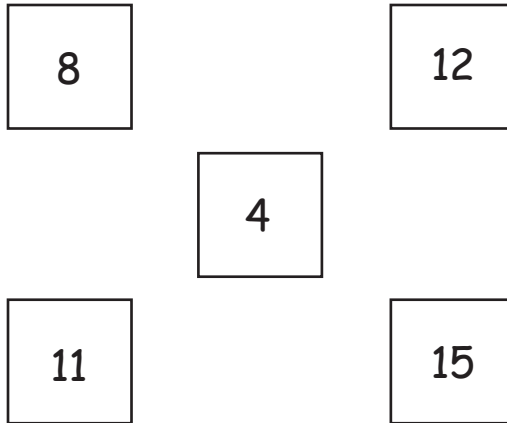
[5]

13. Matthew is playing a game that uses numbered tiles.

The game involves working out the range and mean of the numbers on five tiles.

Matthew has these five tiles.

| 8 | | 12 |

| | 4 | |

| 11 | | 15 |

With his final move in a game, Matthew must replace **exactly two** of his tiles with two different tiles.

To win the game he must keep the **same range** as above but **increase the mean by 1**.

Fill in the numbers on the tiles below to show the three tiles he has kept, and the new numbers on the two tiles he has changed, if he is to win.

| □ | | □ |

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| □ | | □ |
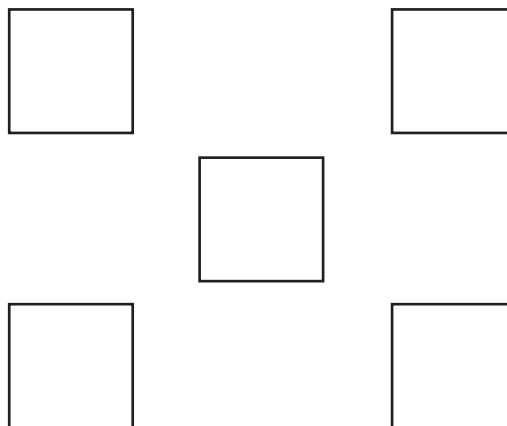
For working:

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[3]

14. A new car, bought for £28 000, was sold one year later for £22 960.

Calculate the percentage depreciation.

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[2]

15. Nicola used her car to travel from her home to her friend's house.
It took her two and a half hours, driving at an average speed of 30 mph.

Her return journey home took three hours. She used the same route.

Calculate her average speed on her journey home.

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[4]

END OF PAPER

Question number	Additional page, if required. Write the question numbers in the left-hand margin.	Examiner only

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