Surname		Centre Number	Candidate Number
Other Names			0

WJEC CBAC

GCSE

4353/01

MATHEMATICS (UNITISED SCHEME)
UNIT 3: CALCULATOR-ALLOWED MATHEMATICS
FOUNDATION TIER

P.M. TUESDAY, 19 June 2012

$1\frac{1}{2}$ hours

ADDITIONAL MATERIALS

A calculator will be required for this paper.

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 **10**.

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

© WJEC CBAC Ltd.

JD*(S12-4353-01)

Formula List

Area of trapezium $= \frac{1}{2}(a + b)h$
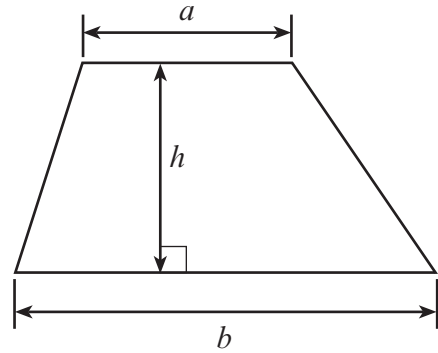
Volume of prism = area of cross-section × length
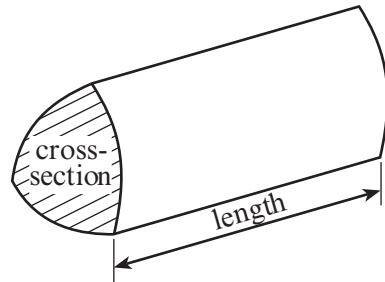
1. *(a)* Jane goes to a garden centre to buy some materials for her garden.

Complete her bill.

Item	Cost
12 plants @ £5.54 each	£
5 rose bushes @ £15.96 each	£
8 bags compost @ £6.24 per bag	£
Total	£

[4]

(b) (i) Jane gets 5 reward points for every complete £10 spent.
How many reward points does Jane get?

....

....

[2]

(ii) How much more would Jane have to spend to get another 5 reward points?

....

....

[1]

(c) Write 16 836

(i) to the nearest 100,

....

[1]

(ii) to the nearest 1000.

....

[1]

(d) Write 46·32 to the nearest whole number.

....

[1]

(e) Using the rule $G = 4H + 12$, find the value of G when $H = 10$.

....

....

[2]

0 3

2. Forty pupils are asked to choose between the television channels BBC1 (shown as 1), BBC2 (2), ITV (3) or Sky (4).
The following table shows their results.

3	1	4	3	1	2	3	4	3	2
1	3	4	3	3	1	4	3	1	2
4	1	2	4	3	4	4	4	3	4
2	3	4	1	4	1	3	4	2	4

(a) Complete the frequency table below.

Channel	Tally	Frequency
BBC1 (1)		
BBC2 (2)		
ITV (3)		
SKY (4)		

[2]

(b) Write down the mode. ....

[1]

(c) Using the squared paper on the next page, draw a suitable bar chart for the data given in the table.

[4]

For use with question 2

Turn over.

3.

The above shape, drawn on a square grid, represents a playground.
Estimate the area of the playground if each square represents an area of $5\,\text{m}^2$.

....

....

....

....

....

....

Area of the playground = ... m^2

[3]

4. The electricity meter readings at the beginning and the end of a 90 day period were:

Reading at the end of the period

2	4	3	8	7

Reading at the beginning of the period

2	3	7	5	4

The cost of the electricity is 16p per unit.
There is also a charge of 30p per day.
Complete the following table to find the total cost.

Reading at the end of the period	24387
Reading at the beginning of the period	23754
Number of units used	
Cost of the units in £	£
Charge: 30p per day for 90 days	£
Total cost	£

....
....
....
....

[5]

(4353-01) **Turn over.**

5. *(a)* Complete an accurate drawing of the triangle ABC in which $AB = 11$ cm, $B\widehat{A}C = 40°$ and $A\widehat{B}C = 76°$.
The side AB has been drawn for you.

[3]

A ———————————————————— B

(b) Using a ruler and a pair of compasses, construct an angle of 60° at the point A.

[2]

A ————————————————————
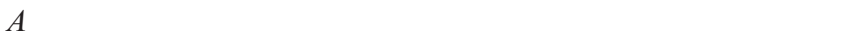
(c)   Using a ruler and a pair of compasses, construct the perpendicular bisector of the line
       XY.

[2]

X   *Y*

© WJEC CBAC Ltd.   (4353-01)   **Turn over.**

6. The ages of the members of a chess team were:

| 25 | 49 | 62 | 18 | 53 | 37 | 71 |

(a) Find the median of these ages.

....

....

....

....

[2]

(b) Find the mean of these ages.

....

....

....

....

[3]

(c) Find the range of these ages.

....

....

[1]

7. Find the value of each of the following, giving your answers correct to two decimal places.

(a) $\dfrac{654 \cdot 6}{93 + 26 \cdot 74}$

....

[2]

(b) $\sqrt{480 \times 0 \cdot 69}$

....

[2]

8. The travel graph below represents Gethin's car journey.

(a) How far from Swansea was Gethin when he started out?

....
[1]

(b) How far did he travel in the first 2 hours?

....
[1]

(c) For how many minutes did he stop on his journey?

....
[1]

(d) After his stop he continued his journey at a steady speed. By 17:24 he had reached a point 118 miles from Swansea. Draw the graph for this part of his journey.
[1]

Distance (in miles) from Swansea
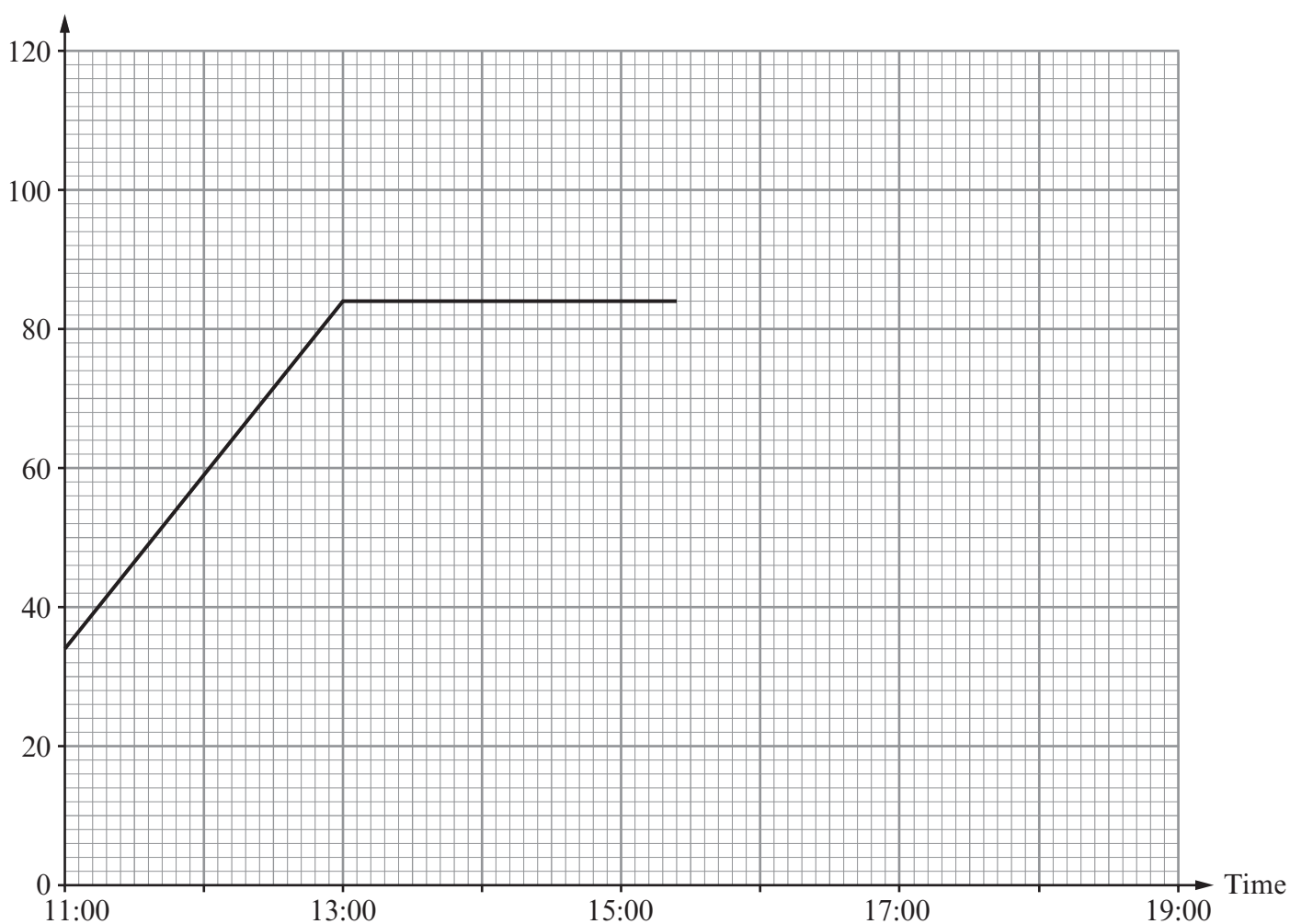
9. The table shows the various types of car washes available at a garage and the number of each type used by motorists during one month.

Type of car wash	'A'	'B'	'C'	'D'
Number of car washes	96	64	52	28

Draw a pie chart to illustrate this data. You should show how you calculate the angles of your pie chart.

....

....

....

....

....

....

....
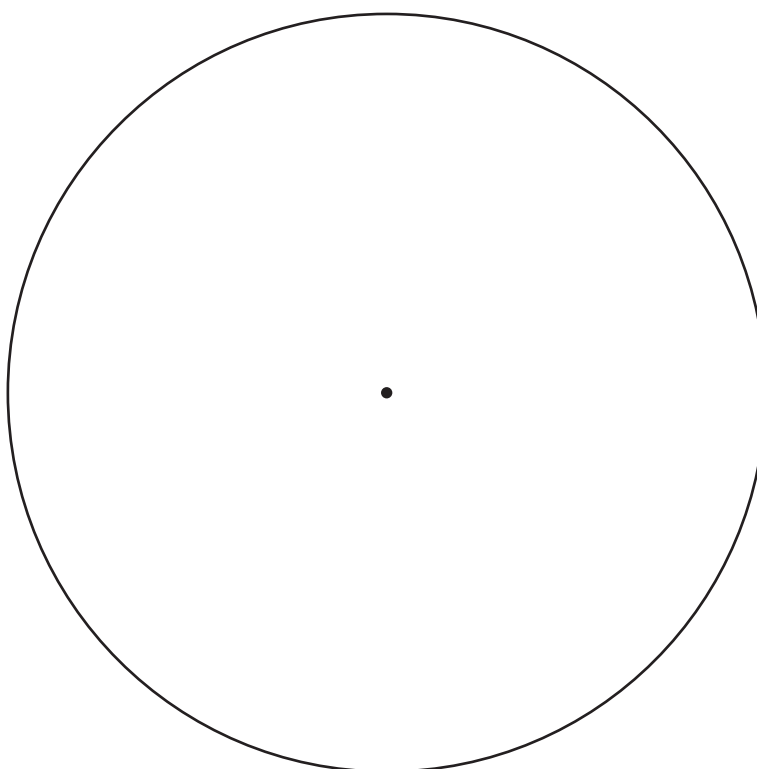
[4]

10. *The quality of your written communication will be assessed in this question.*

Sue buys 12·6 kg of potatoes and 5·4 kg of carrots for £27.63.
The potatoes cost £1.85 per kg.
Find the cost of 1 kg of carrots.

....

....

....

....

....

....

....

....

[6]

11. A number of students measured the length of their thumb in millimetres and the length of their foot in centimetres.

Thumb, mm	56	70	48	54	62	64
Foot, cm	24	36	20	22	28	32

(a) Draw a scatter diagram to display these measurements.

[2]

Length of foot, cm

Length of thumb, mm
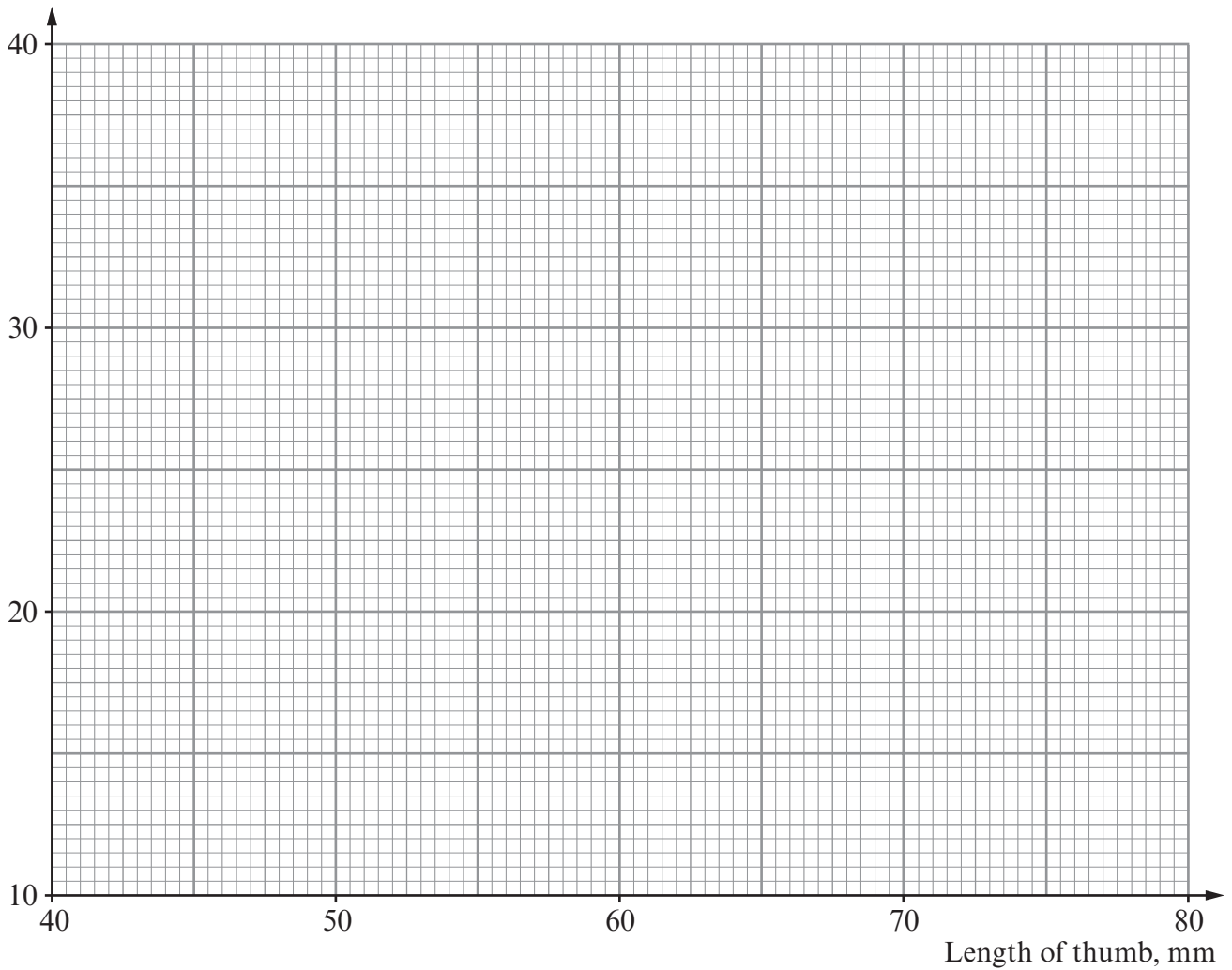
(b) (i) For the given data, find one point that the line of best fit needs to pass through.

....

....

....

....

[2]

(ii) Draw a line of best fit on your scatter diagram. [2]

(c) State the type of correlation shown in your scatter diagram.

....

[1]

(d) Give a possible reason why the graph was drawn with neither scale starting at zero.

....

....

....

....

[1]

12.

12·6 cm

4·5 cm

3·2 cm

Diagram not drawn to scale
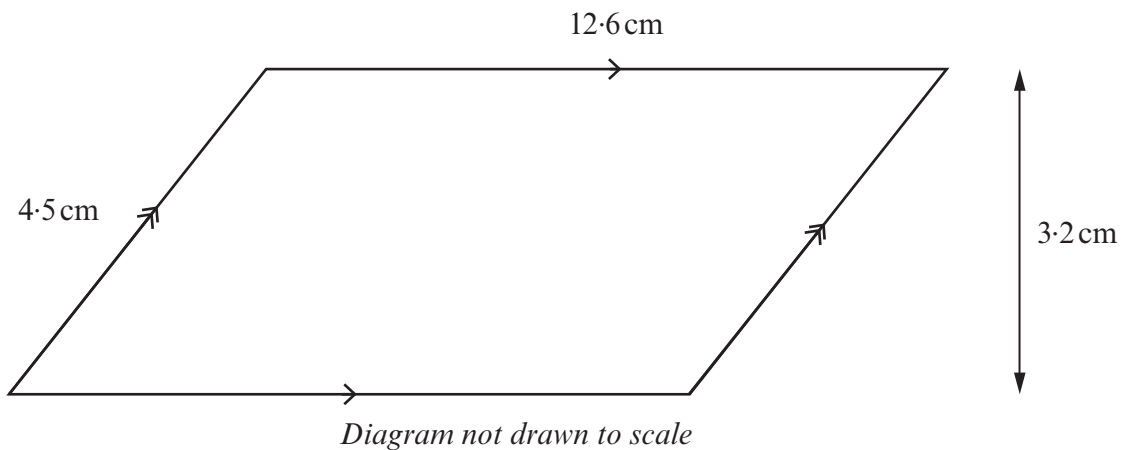
Calculate the area of the parallelogram.

....

....

....

[2]

13.
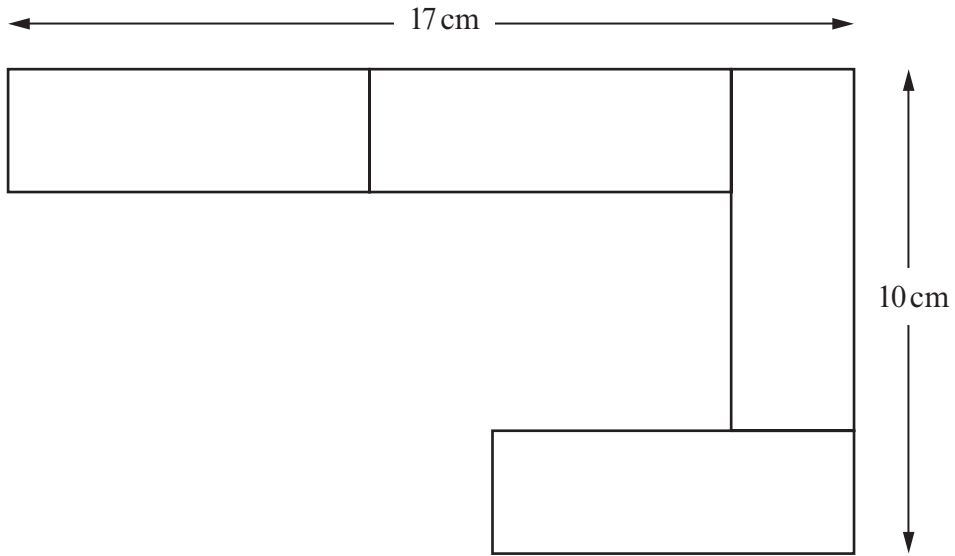
Diagram not drawn to scale

Four identical rectangles fit together as shown.
Find the total area that they cover, clearly stating the units of your answer.

....

....

....

....

....

....

....

....

....

[6]

14. A shop's prices for paint and the paint shades they can mix for customers are shown below.

Paint price list	
Colour	**Price per 100 ml**
White	£1.20
Blue	£1.30
Red	£1.35

Paint mixing chart	
Shade	**Recipe**
Hint of pink	4 parts white and 1 part red
Hint of blue	17 parts white and 2 parts blue
Hint of purple	20 parts white, 3 parts blue and 2 parts red

Jenny is asked to mix paint for a customer. The customer has ordered 1 litre of "hint of pink" paint and 5 litres of "hint of purple" paint. Calculate the cost of the customer's order for paint.

....

....

....

....

....

....

....

....

....

....

....

....

[6]

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

(4353-01)