Surname		Centre Number	Candidate Number
Other Names			0

WJEC CBAC

GCSE

4352/01

MATHEMATICS (UNITISED SCHEME)
UNIT 2: Non-Calculator Mathematics
FOUNDATION TIER

A.M. FRIDAY, 14 June 2013

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

Suitable for Modified Language Candidates

CALCULATORS ARE NOT TO BE USED FOR THIS PAPER

ADDITIONAL MATERIALS

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.

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 **9**.

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

SJJ*(S13-4352-01)R1 ML

Formula List

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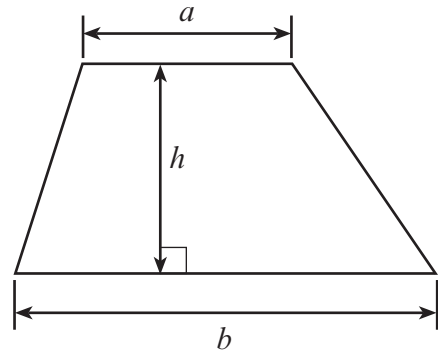
Volume of prism = area of cross-section $\times$ length

(4352-01)
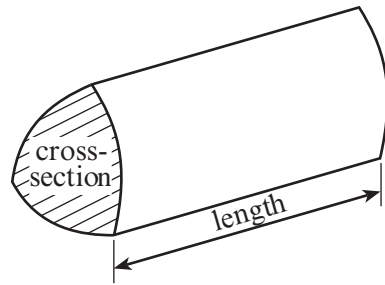
1. *(a)* (i) Write down in words the number 67 530.

....
[1]

(ii) Write down in figures the number eight thousand and thirty four.

....
[1]

(b) Using the following list of numbers,

25   13   31   64   40   49   39   11   42

write down

(i) two numbers that add up to 80,

....
[1]

(ii) the number that is the difference between 59 and 70,

....
[1]

(iii) a multiple of 6,

....
[1]

(iv) a factor of 100,

....
[1]

(v) the square of 8,

....
[1]

(vi) an odd number that is not a prime number nor a perfect square.

....
[1]

(c) Write 6753

(i) correct to the nearest 100,

....
[1]

(ii) correct to the nearest 1000.

....
[1]

2. Circle the quantity that is the appropriate estimate for each of the following.

Weight of a 16-year-old male	65 kg	650 mg	65 g	6·5 kg
Volume of a bucket of water	450 litres	45 ml	4·5 cm^3	4·5 litres
Distance from Cardiff to London	240 cm	24 km	240 mm	240 km
Height of a woman	170 m	1700 cm	170 cm	170 mm

[4]

3. Each of the numbers 1, 2, 3 and 4 must occur at least once on the spinner below. Write one of the numbers 1, 2, 3 or 4 in each of the six sections of the spinner so that on each spin

(i) the probability of getting a 1 is equal to the probability of getting a 2,
(ii) the probability of getting a 3 is greater than the probability of getting a 1,
(iii) the probability of getting a 4 is less than the probability of getting a 3.

[4]
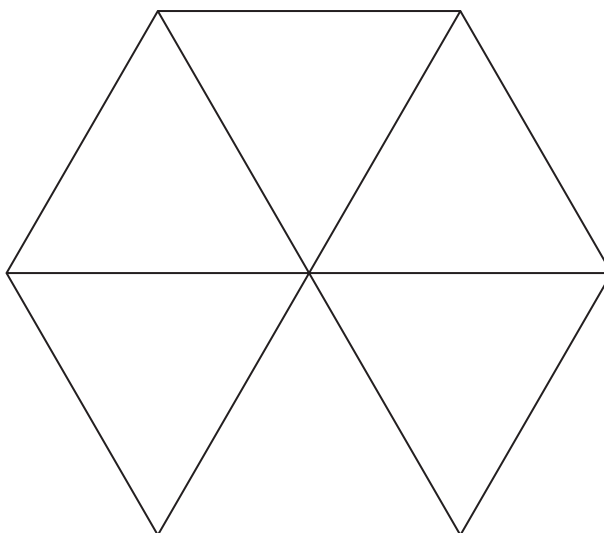
4. *(a)* Describe **in words** the rule for continuing **each** of the following sequences.

(i)   51,   47,   43,   39, ...

Rule: ....

....

(ii)   243,   81,   27,   9, ...

Rule: ....

....

[2]

(b) Solve $x + 3 = 14$.

....

....

[1]

(c) (i)   Write down the next term of the sequence

3,   4,   6,   9,   13, ...

[1]

(ii)   Describe in words the rule for continuing the sequence.

....

....

[1]

5. *(a)* Sion has a parallelogram, a rhombus, a rectangle and a kite.

parallelogram   rhombus   rectangle   kite
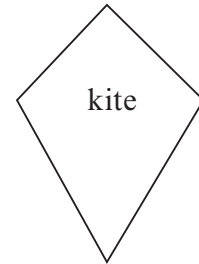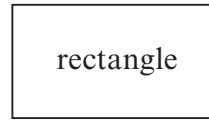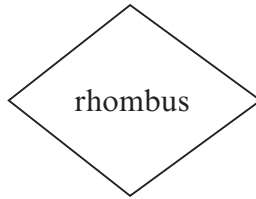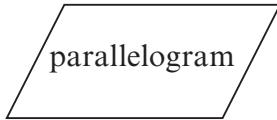
To help Sion sort out his shapes, answer the following questions.

- Which quadrilateral has all its sides equal? ....

The shape you have chosen is now removed, leaving three quadrilaterals.

- Which quadrilateral has all its angles equal? ....

The second shape you have chosen is now removed, leaving two quadilaterals.

- Which quadrilateral has 2 pairs of adjacent sides equal? ....

[3]

(b) Shade in as few squares as possible so that the pattern is symmetrical about *PQ*.

[2]

P

Q
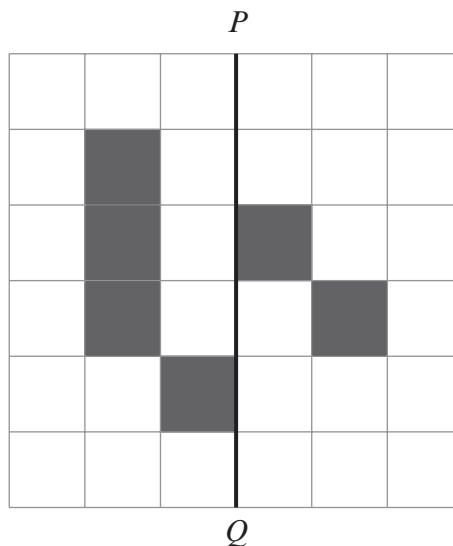
6. The electricity meter readings at the beginning and at the end of a 3-month period were:

Reading at the end of the period

6	5	1	9	7

Reading at the beginning of the period

6	4	9	4	7

The cost of the electricity used was 30p per unit. There was a standing charge of £25.34 for the 3-month period.

Complete the following table to find the total cost.

Reading at the end of the period	
Reading at the beginning of the period	
Number of units used	
Cost of the units, in £	
Standing charge for the 3 months	
Total cost	

....

....

....

....

[4]

7. *(a)* Solve $6x - 5 = 7$.

....

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....
[2]

(b) Simplify $5a + b - 4a - 2b$.

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....

....
[2]

(c) Write down the cube root of 64.

....
[1]

(d) Simplify $\frac{7}{8} - \frac{1}{4}$.

....

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....

....
[2]

(e) Here is a number machine.

| INPUT | → | SUBTRACT 2 | → | DIVIDE BY 6 | → | OUTPUT |
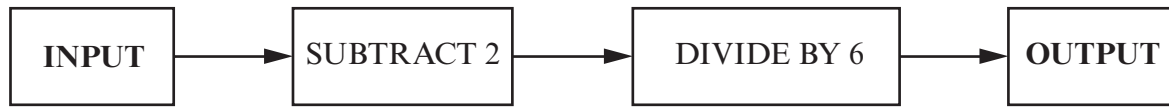
Write down the OUTPUT when the INPUT is −4.

....

....

....

[1]

8. *(a)* On the grid below, draw the enlargement of the given shape, using a scale factor of 3 and centre *A*.

[3]

A
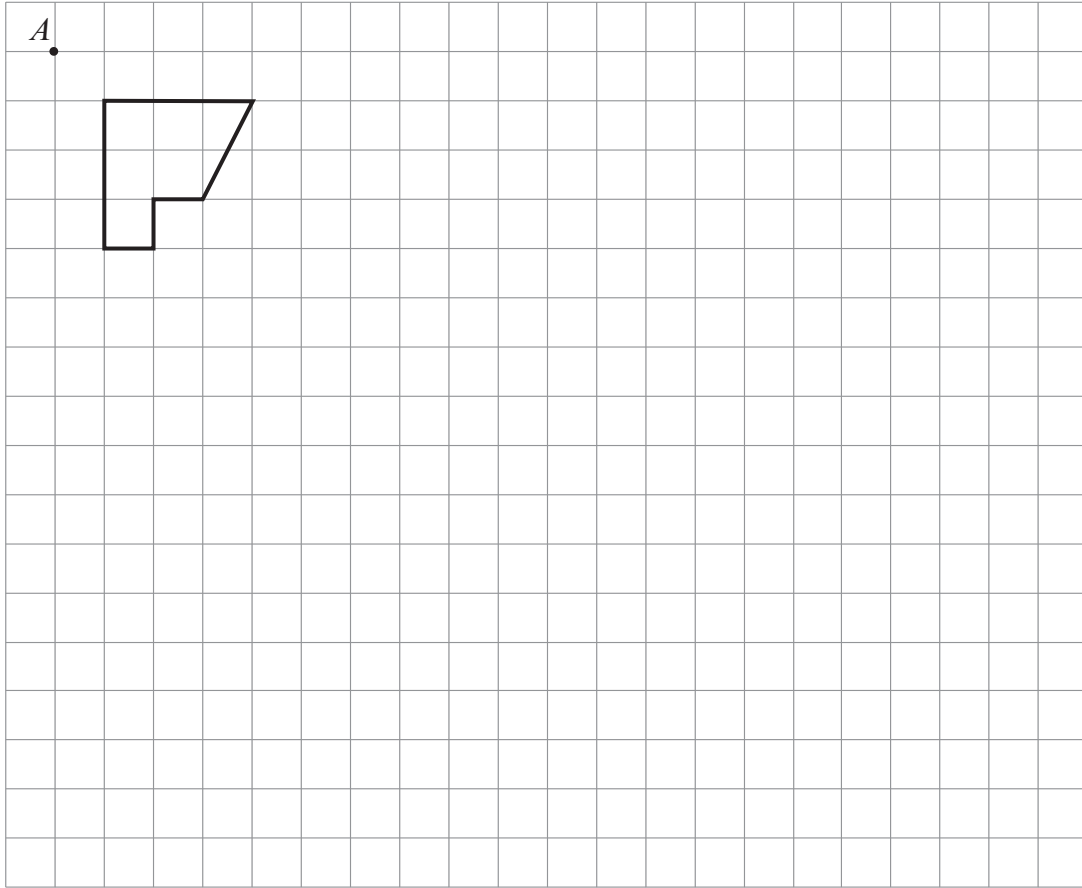
(b) Draw the reflection of the triangle in the line *y* = 2.

[2]

Turn over.

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

Perfume
SPECIAL OFFER

Buy 3 and get the cheapest **free**

Large bottle £5.50
Medium bottle £3.60
Small bottle £2.40

Samantha wants to buy 7 large bottles, 4 medium bottles and 4 small bottles.
What is the most she can save on this special offer?

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[8]

10. Harley has saved £210 towards the cost of buying a laptop computer.
She earns £140 per week from a part-time job.
Harley can only afford to save 12% of the amount she earns each week.
She sees an advertisement, shown below, for the laptop computer she wants to buy.

£340

Only for the next 6 weeks ...

15% off the marked price!

Remember this offer is only valid for the next 6 weeks.

Will Harley be able to buy the laptop computer at the reduced price?
You must show all your working. Give a reason for your answer.

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[6]

(4352-01)   **Turn over.**

11. Yasmin carried out an experiment.

In the experiment, she shot 10 balls at a target and recorded the number of shots hitting the target.

She carried out this experiment 6 times.

The results are shown in the following table.

Experiment	1st	2nd	3rd	4th	5th	6th
Number of shots hitting the target	3	5	4	4	2	2

Yasmin decided to draw a graph. It showed the relative frequency of 'shots hitting the target' after 10 shots, 20 shots, 30 shots, 40 shots, 50 shots, 60 shots.

(a) Draw the graph of the relative frequencies. Use the graph paper opposite for your graph.
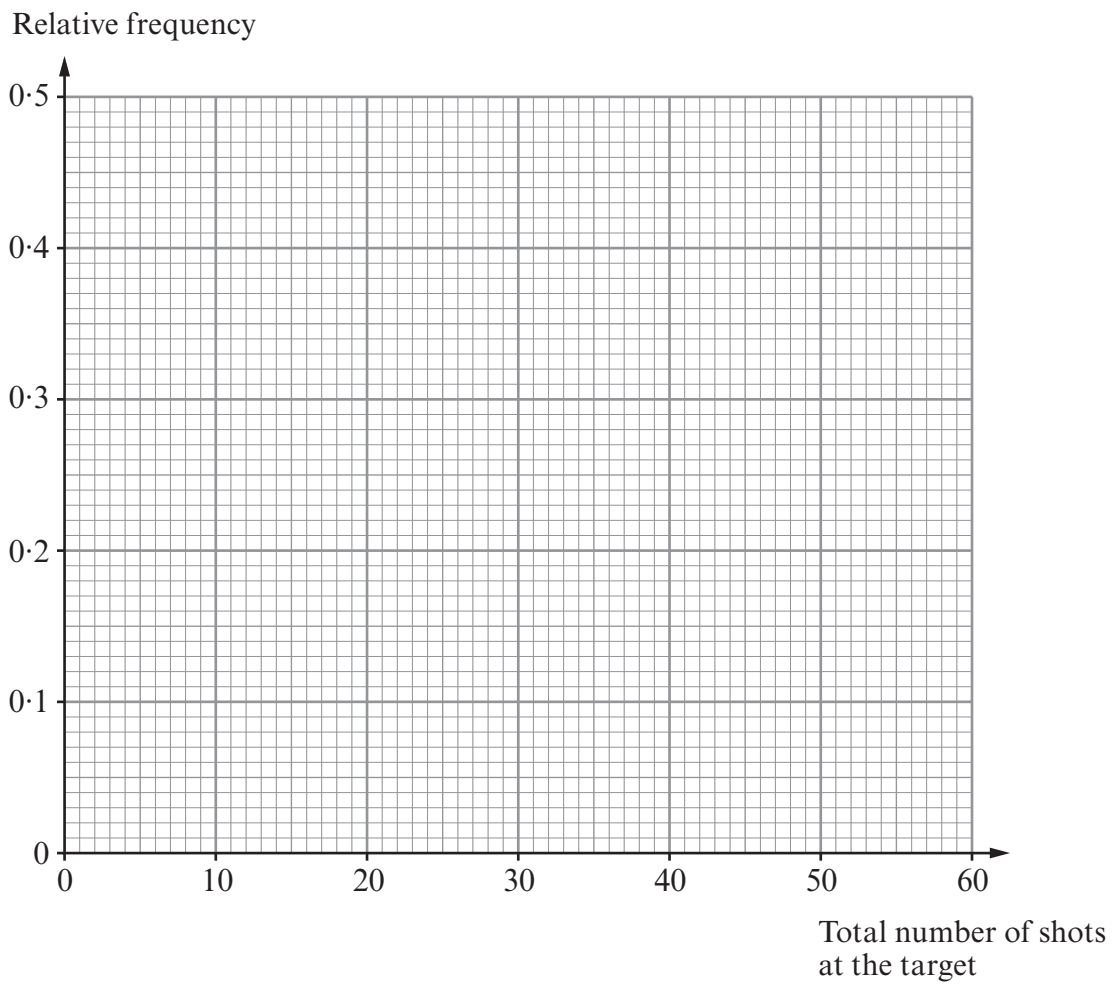
....

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....

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....

....

Relative frequency

Total number of shots at the target

[5]

(b) Has the experiment been carried out enough times to give a good estimate for the probability of a shot hitting the target?
You must give a reason for your answer.

....

....

....

[1]

END OF PAPER

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

(4352-01)