Surname	Centre Number	Candidate Number
Other Names		0

GCSE

4352/01

S15-4352-01

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

A.M. THURSDAY, 4 June 2015

1 hour 15 minutes

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.	**7**	
2.	**4**	
3.	**4**	
4.	**5**	
5.	**3**	
6.	**3**	
7.	**4**	
8.	**5**	
9.	**5**	
10.	**4**	
11.	**5**	
12.	**4**	
13.	**2**	
14.	**5**	
15.	**5**	
Total	**65**	

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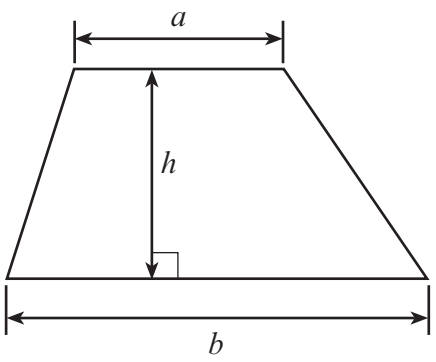
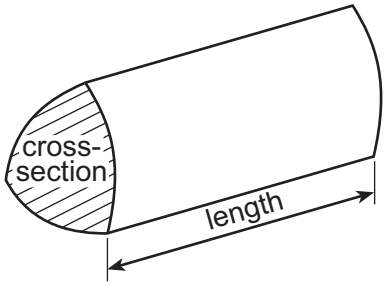
Formula List

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



Volume of prism = area of cross-section × length



Examiner only

1. *(a)* Work out the sum of 359 and 207. [1]

(b) What number must be added to 47 to make 300? [1]

(c) Write down the smallest multiple of 6 that is greater than 50. [1]

(d) Write $\frac{1}{2}$ as a percentage. [1]

(e) In 2011, the population of Wales was about three million and sixty-four thousand. Write this number in figures. [1]

(f) The cost of 7 identical bicycles is £770. What is the cost of one of these bicycles? [1]

(g) Write 4629 correct to the nearest 100. [1]

Examiner only

2. *(a)*

Gwyn has 25 hens.

On a particular day, each hen laid one egg.

8 of the eggs were white and the rest were brown.

Gwyn chose one egg at random.

Circle the best expression from those given below to describe the chance that Gwyn chose a brown egg. [1]

impossible **unlikely** **an even chance** **likely** **certain**

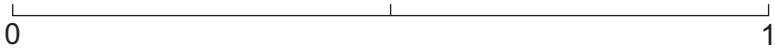
(b) Ffion has a bag containing 10 balls of wool.
2 balls are pink, 1 ball is green and the remaining balls are yellow.
Ffion chooses one ball of wool at random from her bag.

On the probability scale shown below, mark the points A, B and C where:

A is the probability that Ffion chooses a pink ball of wool.

B is the probability that Ffion chooses a yellow ball of wool.

C is the probability that Ffion chooses a blue ball of wool. [3]



Examiner only

3. Write down the metric unit that is best used to measure [4]

the volume of tea in a teacup, ...

the distance from Cardiff to Manchester, ...

the weight of a cruise ship, ...

the length of a school hall. .....

4. *(a)* Write down the next number in this sequence. [1]

100, 93, 86, 79, ...

.....

(b) Solve these equations.

(i) $3x = 60$ [1]

.....

.....

(ii) $y + 19 = 26$ [1]

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.....

(c) Simplify $5p + 6p - 8p$. [1]

.....

(d) Here is a number machine.

Write down the OUTPUT when the INPUT is 1. [1]

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5. Beth has only 20p and 10p coins in her purse.

She has three times as many 20p coins as 10p coins.

If Beth has £2.80 altogether, how many 20p coins does she have? [3]

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6. A bottle contains $\frac{1}{4}$ litre of medicine.

How many 5 ml spoonfuls of medicine does this bottle contain? [3]

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Examiner only

7. A lift always has a sign showing its safety limits.

This gives the maximum weight and the maximum number of people allowed in the lift.

These are the signs in the lifts at two railway stations.

LLANDUDNO JUNCTION STATION	
Maximum weight	1500 kg
Maximum number of people	20

CREWE STATION	
Maximum weight	..... kg
Maximum number of people	50

What is the maximum weight allowed in the lift at Crewe Station?

Assume that both lifts allow the same weight per person.

You must show all your working. [4]

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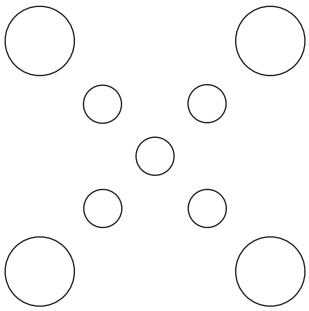
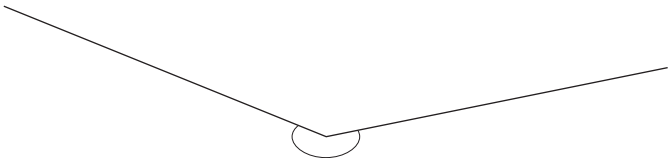
8. *(a)* Draw all the lines of symmetry on this diagram. [2]



(b) What is the special name given to angles that are larger than 180°? [1]



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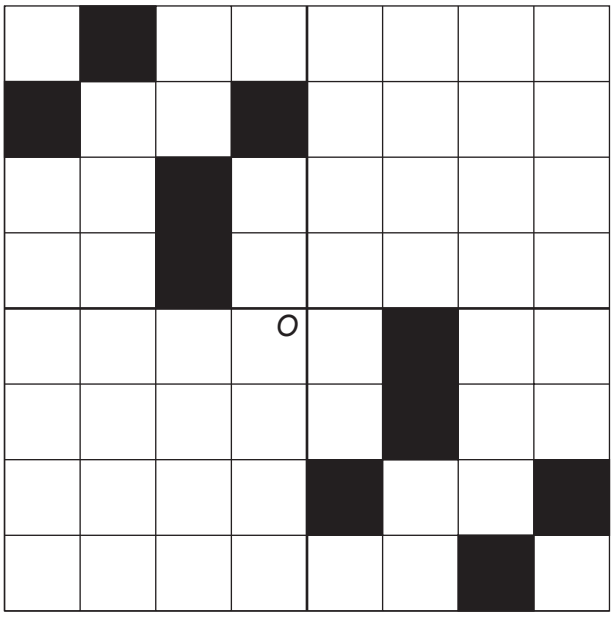
(c) Draw patterns like the given ones in each of the other 2 sections, so that the completed pattern has rotational symmetry of order 4 about *O*. [2]



Examiner only

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

Gwilym bought a camera for £150.

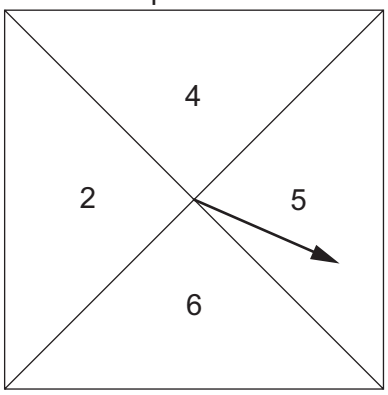
When he sold the camera, he made a loss of 6%.

For how much did Gwilym sell the camera? [5]

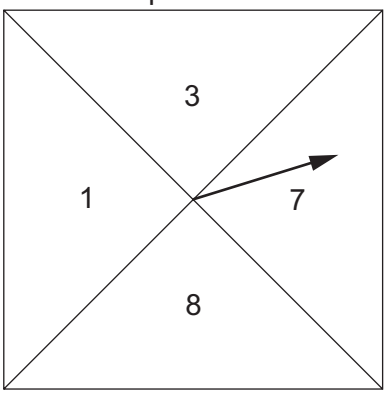
Examiner only

10. Amira is playing a game with two fair spinners.
The faces of the spinners are shown below.

Spinner A



Spinner B



The numbers on Spinner A are 2, 4, 5, 6.

The numbers on Spinner B are 1, 3, 7, 8.

Amira spins Spinner A and then she spins Spinner B.
She works out her score by **multiplying the number on Spinner A by 3 and adding the answer to the number on Spinner B**.
For example, if the number on Spinner A is 5 and the number on Spinner B is 7, then Amira's score would be $(3 \times 5) + 7 = 22$.

(a) Complete the table below to show all Amira's possible scores. [2]

Spinner A \ Spinner B	1	3	7	8
2	7		13	
4		15		20
5	16		22	
6		21		26

(b) Find the probability that Amira's score is less than 15. [2]

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Examiner only

11. The diagram shows an isosceles triangle ABC where $AB = AC$.

All angles are measured in degrees.

Calculate the size of $B\hat{A}C$. [5]

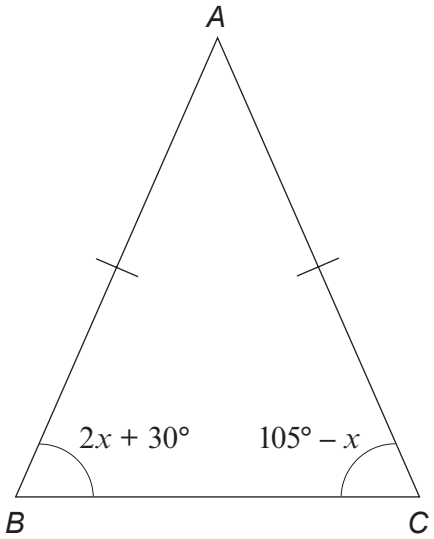

Diagram not drawn to scale

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12. Sumston School has a total of 600 pupils.
They each travel to school in only one of four ways: by bus, by car, cycle or walk.

On a given day, when all pupils attended school, the probability that a randomly chosen pupil travelled by bus was 0·6 and the probability that the pupil travelled by car was 0·1.

How many pupils cycled or walked to Sumston School on that day? [4]

13. Find the coordinates of the mid-point of the straight line joining the points (–3, –6) and (5, 6). [2]

Examiner only

14. *(a)* Express 80 as a product of prime factors. [2]

(b) Find the lowest common multiple of 80 and 24. [2]

(c) Find the highest common factor of 80 and 24. [1]

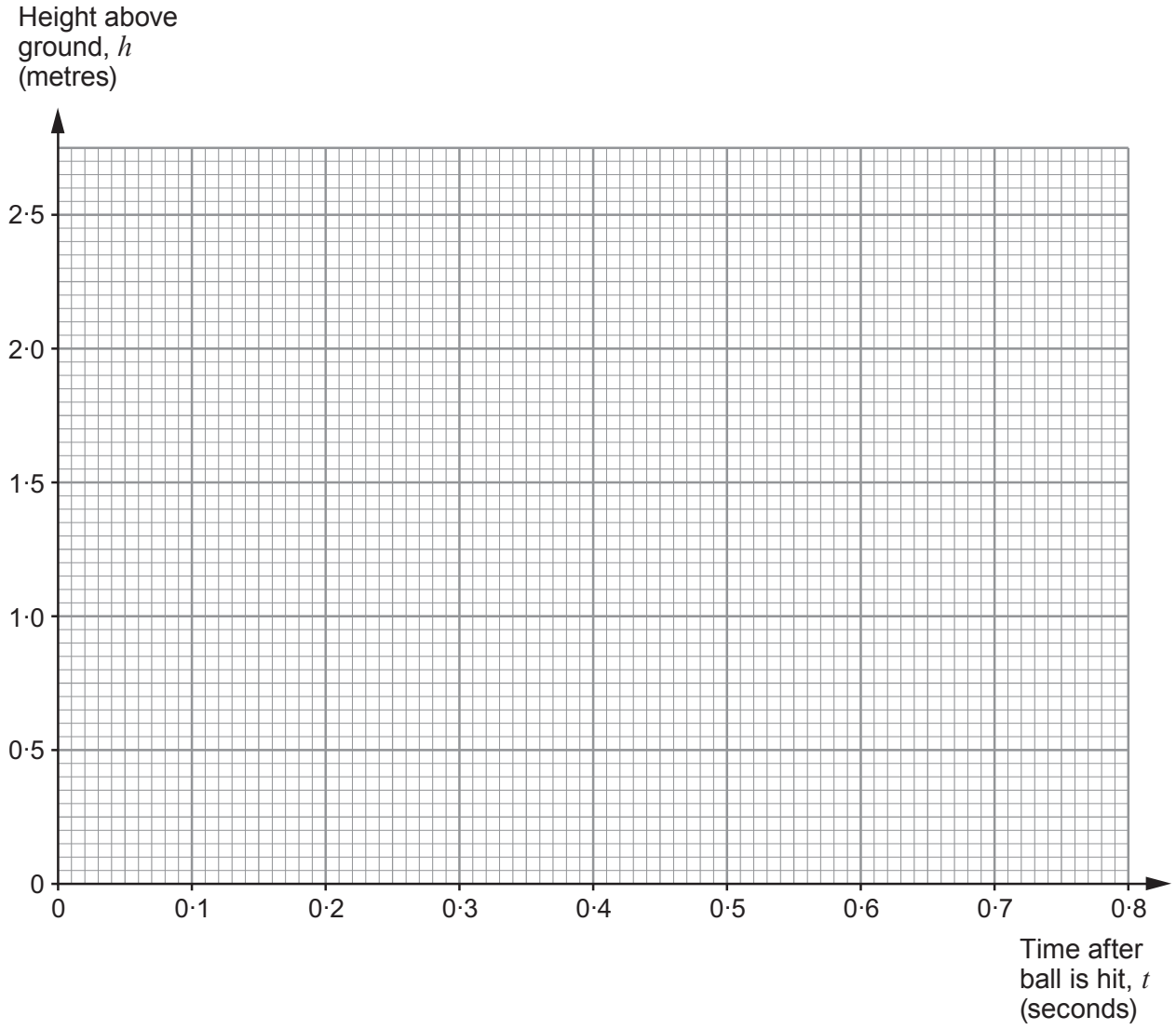
Examiner only

15. Stefan is practising tennis.

After a ball is hit, a camera records its height at different times.
The results are given in the following table.

Time after ball is hit, t (seconds)	0	0·1	0·2	0·3	0·4	0·5	0·6	0·7
Height above ground, h (metres)	2·2	2·25	2·2	2·05	1·8	1·45	1·0	0·45

(a) On the axes below, draw a graph to show the heights of the ball for values of t between 0 and 0·7 seconds. [3]



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(b) What is the ball's height above the ground when it is hit? [1]

.....

(c) Use your graph to estimate for how much time the ball is more than 1·3 m above the ground after being hit. [1]

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END OF PAPER

Question number	Additional page, if required. Write the question number(s) in the left-hand margin.

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