

FOR OFFICIAL USE

--	--	--	--	--	--

F

	KU	RE
Paper 1		
Paper 2		
Total		

2500/401

NATIONAL
QUALIFICATIONS
2011

WEDNESDAY, 4 MAY
9.00 AM – 9.20 AM

MATHEMATICS
STANDARD GRADE
Foundation Level
Paper 1
Non-calculator

Fill in these boxes and read what is printed below.

Full name of centre

Town

Forename(s)

Surname

Date of birth

Day Month Year

--	--	--	--	--	--

Scottish candidate number

--	--	--	--	--	--	--	--	--	--

Number of seat

- You may NOT use a calculator.**
- Answer as many questions as you can.
- Write your working and answers in the spaces provided. Additional space is provided at the end of this question-answer book for use if required. If you use this space, write clearly the number of the question involved.
- Full credit will be given only where the solution contains appropriate working.
- Before leaving the examination room you must give this book to the Invigilator. If you do not, you may lose all the marks for this paper.



Marks

	KU	RE
1		
1		
2		

1. Work out the answers to the following.

(a) $\pounds 3.82 \times 4$

WORKING

ANSWER \pounds

(b) $835 - 416$

WORKING

ANSWER

(c) $\frac{1}{7}$ of 294

WORKING

ANSWER

Marks

KU RE

2. Last season, a striker in a football team scored a goal 50% of the time he shot at goal.
He shot at goal 76 times last season.
How many goals did he score?



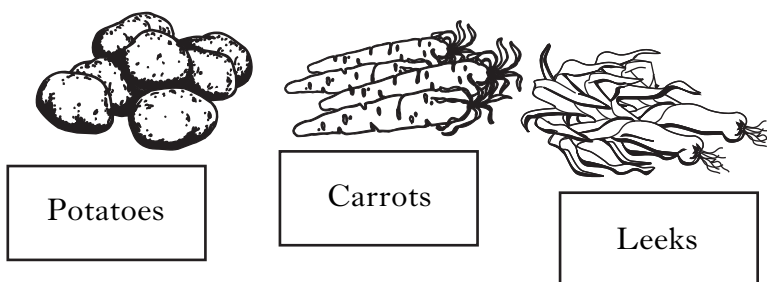
WORKING

ANSWER

goals

2




3. Fiona sells vegetables at the Farmers' Market.



The potatoes, carrots and leeks she sells can be

- **Scottish**
- **English**

The table below shows one possible combination when buying these vegetables.

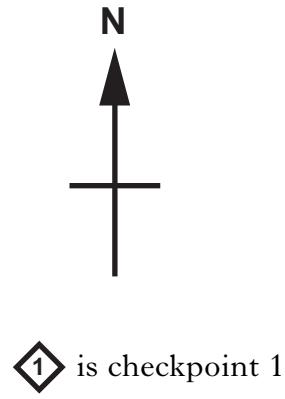
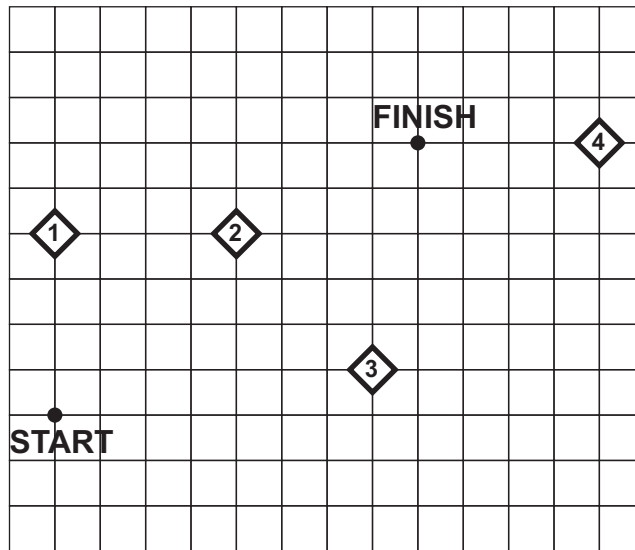
		
Scottish	English	Scottish

Complete the table to show five other possible combinations.

3

KU	RE

4. John is taking part in an outdoor training exercise.
His task is to travel from START to FINISH visiting **all** the checkpoints, **in order**, as shown in the diagram below.



John has been asked to write down the direction he is travelling at each stage of his journey.

John’s list, part of the way through his journey, is shown below.

START, North, East, South-East, _____ ,
 _____ , FINISH

Fill in the blanks to show John’s entire journey.

2

Marks

KU	RE
----	----

5. Taiba has 17 bags of garden waste to take to her local recycling centre by car.



Taiba's car can hold 3 bags at one time.

How many trips will Taiba need to make to the recycling centre to dispose of all her garden waste?

WORKING
ANSWER

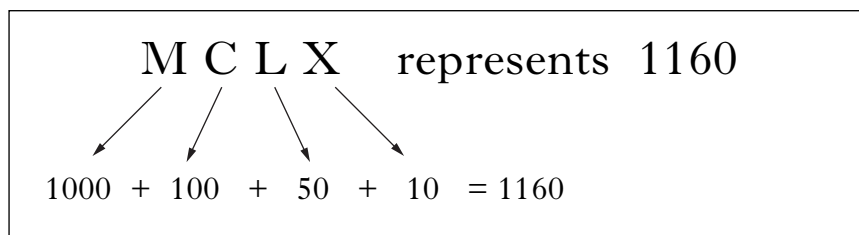
trips

2

6. Ancient Romans used letters to represent numbers.

The letters they used are shown below.

I = 1
V = 5
X = 10
L = 50
C = 100
D = 500
M = 1000



The number MDVI can be worked out in the same way.

What number does MDVI represent?

WORKING

ANSWER

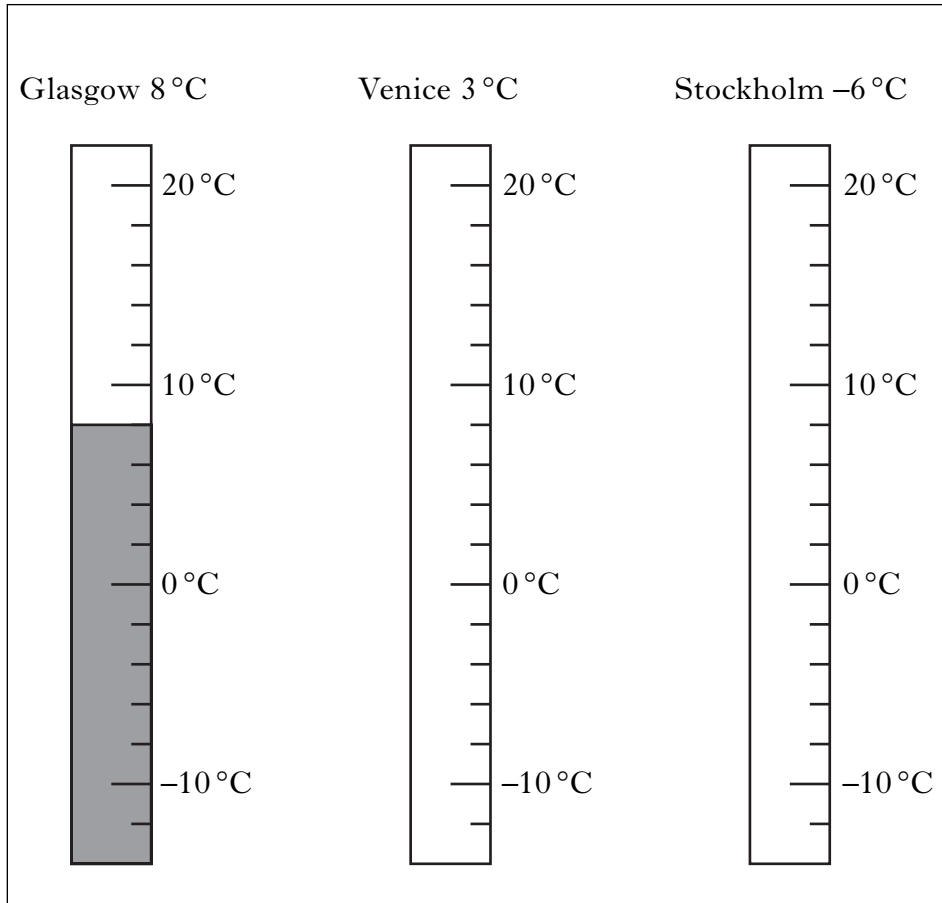
4

Marks

	KU	RE
2		
2		

7. Each day a hotel displays graphs showing the temperatures in some cities. The graph for Glasgow has been completed.

(a) Complete the graphs for Venice and Stockholm.

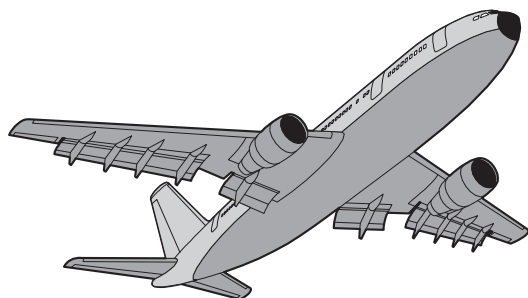


(b) How many degrees warmer is it in Venice than Stockholm?

WORKING	
ANSWER	°C

KU	RE

8. Adam's plane is due to depart at 1630.



(a) Write 1630 as a **12-hour time**.

ANSWER	
--------	--

1

(b) The latest check-in time for Adam's flight is 1 hour 15 minutes before departure.

It takes 45 minutes to drive from Adam's house to the airport.

Adam leaves his house at 1410.

Will Adam be able to check in on time?

Give a reason for your answer.

WORKING

ANSWER INCLUDING REASON

4

[END OF QUESTION PAPER]

ADDITIONAL SPACE FOR ANSWERS

[BLANK PAGE]

[BLANK PAGE]

FOR OFFICIAL USE

--	--	--	--	--	--

F

KU RE

--	--

2500/402

NATIONAL
QUALIFICATIONS
2011

WEDNESDAY, 4 MAY
9.40 AM – 10.20 AM

MATHEMATICS
STANDARD GRADE
Foundation Level
Paper 2

Fill in these boxes and read what is printed below.

Full name of centre

Town

Forename(s)

Surname

Date of birth

Day Month Year

--	--	--	--	--	--

Scottish candidate number

--	--	--	--	--	--	--	--	--	--

Number of seat

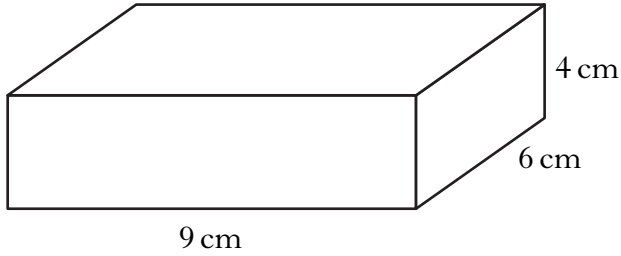
- You may use a calculator.**
- Answer as many questions as you can.
- Write your working and answers in the spaces provided. Additional space is provided at the end of this question-answer book for use if required. If you use this space, write clearly the number of the question involved.
- Full credit will be given only where the solution contains appropriate working.
- Before leaving the examination room you must give this book to the Invigilator. If you do not, you may lose all the marks for this paper.



Marks

KU	RE

2. A box of chocolates is in the shape of a cuboid.
The cuboid is 9 centimetres long, 6 centimetres broad and 4 centimetres high.



Find the volume of the box.

WORKING

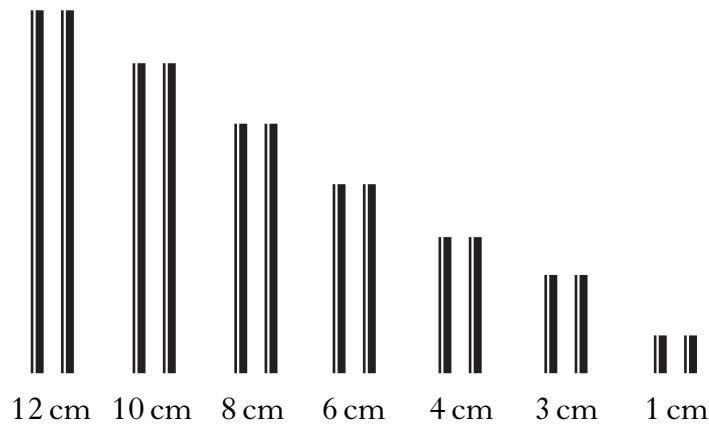
ANSWER

cubic centimetres

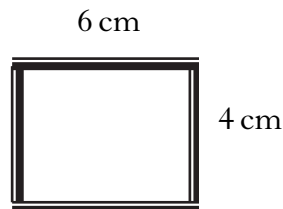
2

	KU	RE
2		
2		

4. Emma is playing with straws which she has cut to the sizes shown below.



She uses four of the straws to make this rectangle.



(a) Calculate the area of this rectangle.

WORKING	
ANSWER	square centimetres

2

(b) Emma notices that she can use four more straws to make a different rectangle with the **same area** as the one above.

Which four straws does Emma use?

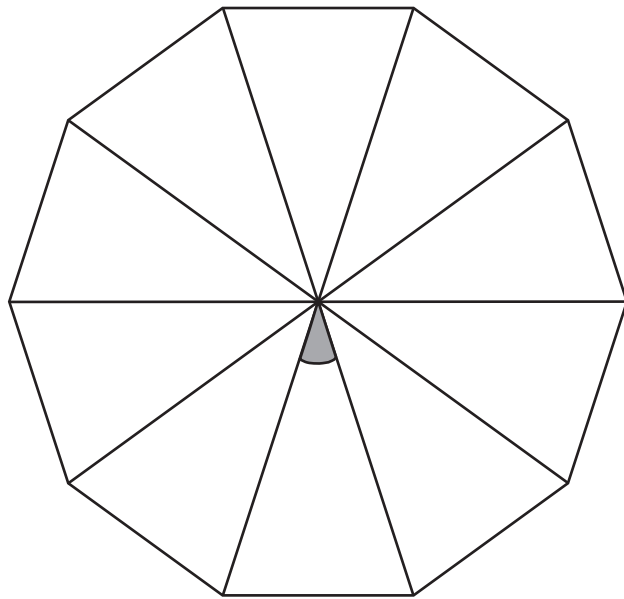
WORKING	
ANSWER	

2

Marks

KU RE

5. The shape below is called a decagon.



The angles at the centre of this decagon are equal.

Calculate the size of the shaded angle.

WORKING

ANSWER

°

3

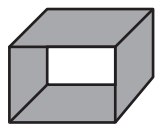
Marks

	KU	RE
4		
2		

6. A furniture company makes wooden shelf units in different sizes.

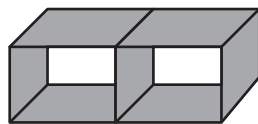
Some of the sizes are shown below.

Shelf size 1



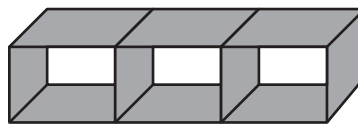
4 pieces of wood

Shelf size 2



7 pieces of wood

Shelf size 3



(a) Complete this table.

Shelf size	1	2	3	4	5	6		13
Number of pieces of wood	4	7						

WORKING

4

(b) Write down a rule for finding the number of pieces of wood if you know the shelf size.

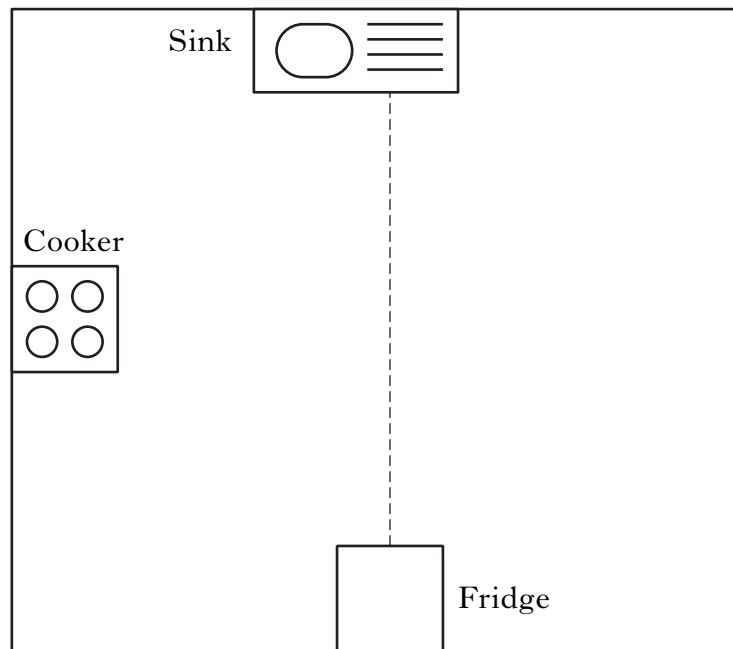
RULE

2

Marks

KU	RE

7. This is a plan of Gordon's kitchen.



(a) A broken line has been drawn on the plan to show the distance from the fridge to the sink.

Measure this distance.

ANSWER		centimetres
--------	--	-------------

1

(b) The scale of the plan is **1 centimetre represents 50 centimetres**.
Find the actual distance from the fridge to the sink in centimetres.

WORKING		
ANSWER		centimetres

2

(c) Write down the actual distance from the fridge to the sink **in metres**.

ANSWER		metres
--------	--	--------

1

Marks

KU	RE
1	
3	

8. The table below can be used to find the cost of 1 year's road tax based on the CO₂ emissions of a car.

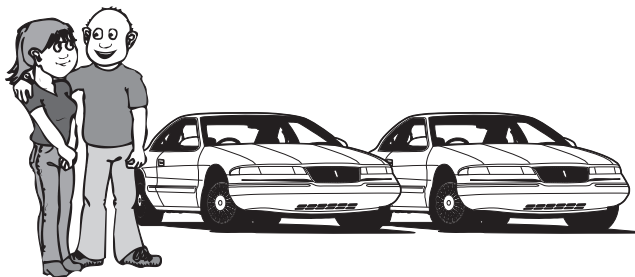
<i>Band</i>	<i>CO₂ Emissions (g/km)</i>	<i>1 year's road tax</i>
A	Up to 100	Not Applicable
B	101 – 120	£35
C	121 – 150	£120
D	151 – 165	£145
E	166 – 185	£170
F	Over 185	£210

- (a) Write down the cost of 1 year's road tax for a car with CO₂ emissions of 160 g/km.

ANSWER	£
--------	---

1

- (b) Mr and Mrs Dunbar each have the same type of car and their total bill for 1 year's road tax is £340.



In which **Band** are their cars?

WORKING	
ANSWER	

3

KU	RE

9. Miss Sweeney asks each pupil in her class to record their shoe size on a piece of paper.

She then asks her class to make up a frequency table showing this information.

The frequency table is shown below.

<i>Shoe size</i>	<i>Tally</i>	<i>Frequency</i>
2		1
3		2
4		5
5		7
6		3
7		2

- (a) Which shoe size is the mode?

ANSWER	
--------	--

1

At the end of the lesson Miss Sweeney collects the pieces of paper but drops two of them on the way back to her desk without noticing.

The pieces of paper that Miss Sweeney still has in her hand are shown below.

2	3	3	4	4	4	4	5	5
5	5	5	5	5	6	6	6	7

- (b) Which two shoe sizes are written on the pieces of paper that Miss Sweeney dropped?

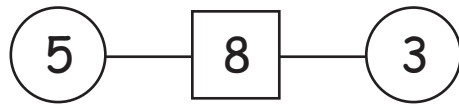
WORKING	
ANSWER	

2

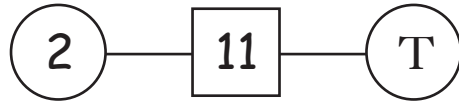
Marks

KU	RE
1	
3	

11. Puzzles are made using circles and squares.
The numbers in the two circles must add to give the number in the square.



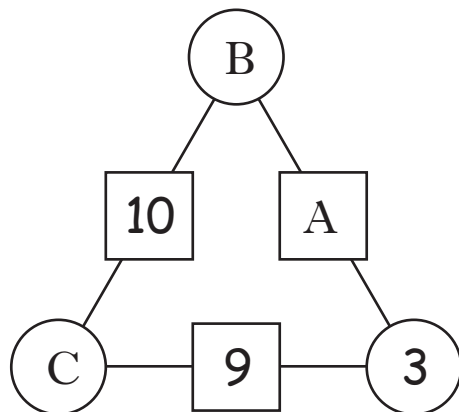
- (a) What number does T represent?



ANSWER	T =
---------------	-----

1

- (b) What numbers do A, B and C represent?



WORKING	

ANSWER	A =
	B =
	C =

3

KU	RE
3	

13. Dolly the Sheep became famous when she was cloned at the Roslin Institute in Edinburgh.



She was born on the 5th July 1996.

She died on the 14th February 2003.

What age was she when she died?

WORKING	
ANSWER	years old

3

Marks

KU	RE

14. Jafar is a joiner.
He fits doors in houses.



He uses this rule to work out how much to charge.

$$\text{Cost in pounds} = 35 + (\text{Number of doors} \times 28)$$

How much does Jafar charge to fit 8 doors?

WORKING

ANSWER

£

3

[Turn over for Question 15 on Page sixteen

ADDITIONAL SPACE FOR ANSWERS

ACKNOWLEDGEMENT

Foundation Level Paper 2 Question 13—Photograph of Dolly the Sheep is reproduced by kind permission of The Roslin Institute, The University of Edinburgh.

[BLANK PAGE]

[BLANK PAGE]