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KU RE

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Total Marks

2500/402

NATIONAL  
QUALIFICATIONS  
2007

THURSDAY, 3 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

|  |  |  |  |  |  |
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Scottish candidate number

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Number of seat

- 1 You may use a calculator.
- 2 Answer as many questions as you can.
- 3 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.
- 4 Full credit will be given only where the solution contains appropriate working.
- 5 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.

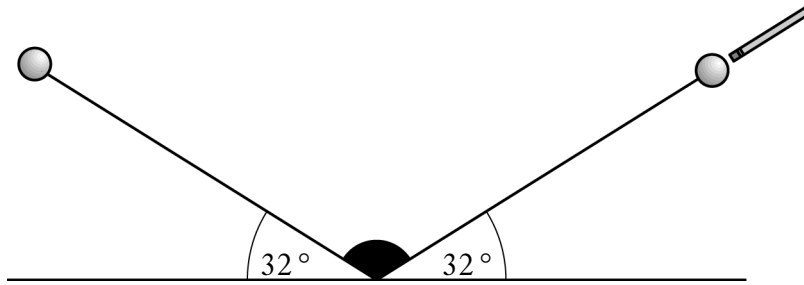


*Marks*

KU

RE

1. A ball hits the edge of a snooker table at an angle of  $32^\circ$  and rebounds from the edge at the **same** angle.



Calculate the size of the shaded angle.

WORKING

ANSWER

C

2

| KU | RE |
|----|----|
|    |    |
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- |                        |        |               |    |                  |
|------------------------|--------|---------------|----|------------------|
| The <i>Colour</i>      | can be | <b>Black</b>  | or | <b>Red</b>       |
| The <i>Style</i>       | can be | <b>Saloon</b> | or | <b>Hatchback</b> |
| The <i>Engine Type</i> | can be | <b>Petrol</b> | or | <b>Diesel</b>    |

| <i>Colour</i> | <i>Style</i>     | <i>Engine Type</i> |
|---------------|------------------|--------------------|
| <b>Black</b>  | <b>Hatchback</b> | <b>Diesel</b>      |
|               |                  |                    |
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3

*Marks*

|    |  |
|----|--|
| KU |  |
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RE

3. The final scores in the Masters Golf Championship are shown below.

|                |    |
|----------------|----|
| Howard Barclay | -1 |
| Alan Palmer    | +2 |
| Ben Logan      | -3 |
| Scott Adam     | +5 |
| Norman Greig   | -2 |

The player with the **lowest** score wins the championship.

Who won?

ANSWER

**1**

[illegible]

- |            | Train 1 | Train 2 | Train 3 |
|------------|---------|---------|---------|
| Lanark     | 09 52   | 10 22   | 10 52   |
| Carluke    | 10 02   | 10 32   | 11 02   |
| Wishaw     | 10 08   | 10 38   | 11 08   |
| Motherwell | 10 20   | 10 50   | 11 20   |
| Glasgow    | 10 55   | 11 20   | 11 55   |

- |        |  |
|--------|--|
| ANSWER |  |
|--------|--|

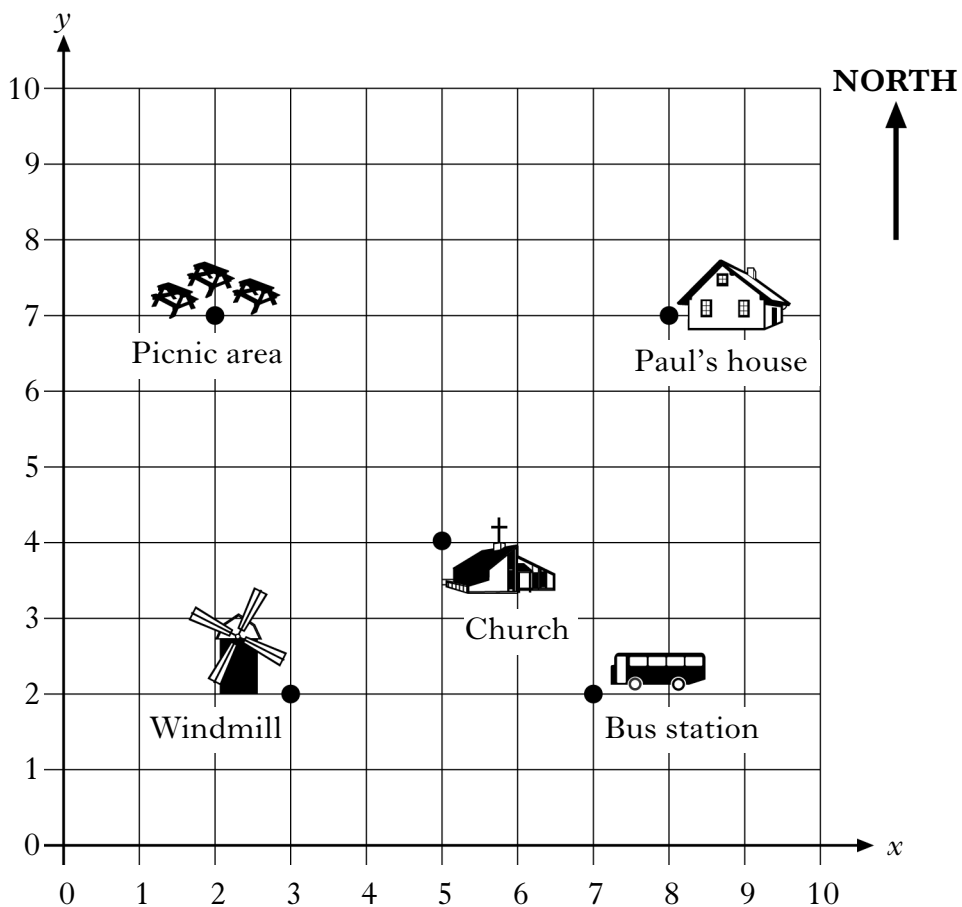
|  |  |
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- |         |         |
|---------|---------|
| WORKING |         |
| ANSWER  | minutes |

[illegible]

[illegible]

- The church is at position (5,4).



- (a) What is at position (2,7)?

ANSWER

**1**

- (b) Write down the coordinates of the windmill.

ANSWER

 $(\quad, \quad)$ 

**1**

- (c) Paul's aunt has a farm at position (1,4).

Mark a cross (X) on the diagram to show the position of the farm.

**1**

- (d) Paul walks from his house to the church.

In which direction does Paul walk?

ANSWER

**1**

[illegible]

- 

A diagram of a rectangular table with two square ends. There are four chairs, represented by semi-circles, attached to the table: two on the top edge and two on the bottom edge.

A diagram of a rectangular table with six chairs. Three chairs are on each of the long sides of the table.

(a) Complete this table.

|                  |   |   |   |   |   |   |  |    |
|------------------|---|---|---|---|---|---|--|----|
| Number of tables | 1 | 2 | 3 | 4 | 5 | 6 |  | 13 |
| Number of chairs | 4 | 6 |   |   |   |   |  |    |

[illegible]

| Name of Employee: RACHEL BROWN |                              |                      |                     |                              |
|--------------------------------|------------------------------|----------------------|---------------------|------------------------------|
| Payments                       | Basic pay<br>£180.00         | Overtime<br>£28.00   | Bonus<br>£20.00     | A<br>Gross Pay<br>£ .        |
| Deductions                     | National Insurance<br>£14.50 | Income Tax<br>£36.00 | Union Dues<br>£2.00 | B<br>Total Deductions<br>£ . |
|                                |                              |                      |                     | C<br>Net Pay<br>£ .          |

3



[illegible]

- The table below shows how the bonus is calculated.

| <b>Sales</b>            | <b>Bonus</b> |
|-------------------------|--------------|
| Less than £10 000       | £0           |
| From £10 000 to £20 000 | 6% of sales  |
| More than £20 000       | 12% of sales |

- What is his bonus?

|        |           |
|--------|-----------|
| ANSWER | $\pounds$ |
|--------|-----------|

- Calculate her bonus.

|         |   |
|---------|---|
| WORKING |   |
| ANSWER  | £ |

[illegible]

- 
- | Date        | Weight (kg) |
|-------------|-------------|
| February 4  | 74          |
| February 11 | 73          |
| February 18 | 73          |
| February 25 | 72          |
| March 4     | 72          |
| March 11    | 71          |
| March 18    | 71          |
| March 25    | 70          |
| April 1     | 70          |
| April 8     | 69          |
| April 22    | 69          |

- 1**

- 1**

| KU | RE |
|----|----|
|    |    |
|    |    |
|    |    |

 $\mathcal{L}$ 

4

*Marks*

|    |  |
|----|--|
| KU |  |
|----|--|

RE

10. The marks of a group of pupils in their French test are shown in the frequency table below.

| Mark | Frequency |
|------|-----------|
| 12   | 4         |
| 13   | 6         |
| 14   | 9         |
| 15   | 11        |
| 16   | 19        |
| 17   | 8         |
| 18   | 3         |

Which mark is the mode?

ANSWER

**1**

**11.**

| ATLETICO LEISURE CENTRE |              |
|-------------------------|--------------|
| Activity                | Ticket Price |
| Aquatrims               | £3.20        |
| Swim                    | £4.65        |
| Aerobics                | £3.25        |
| Gym                     | £4.30        |
| Sauna                   | £4.15        |

- (a) Ian buys a ticket for the gym.  
How much does this cost him?

|        |               |
|--------|---------------|
| ANSWER | $\mathcal{L}$ |
|--------|---------------|

- (b) Atletico Leisure Centre offers a special monthly ticket costing £25.
- This special ticket allows you to use the activities as often as you wish for one month.
- Janet buys a special monthly ticket.
- She goes to Aerobics 10 times in that month.
- How much does Janet save?

|         |   |
|---------|---|
| WORKING |   |
| ANSWER  | £ |

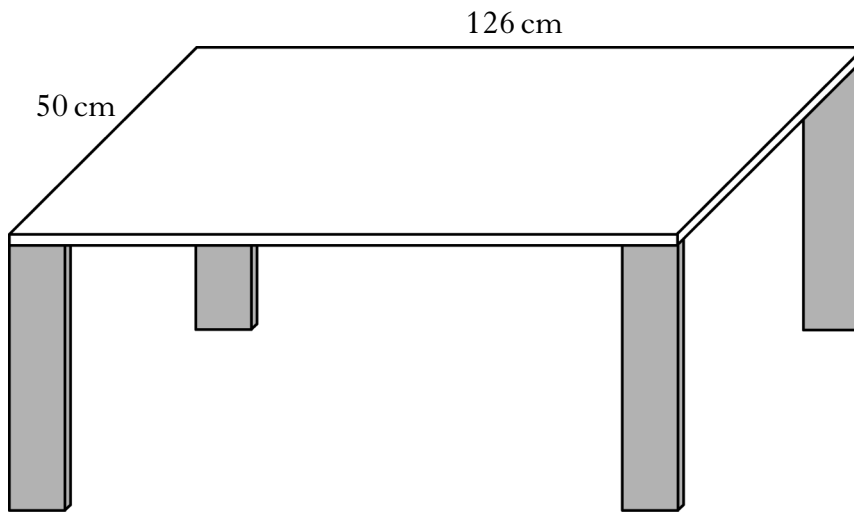
*Marks*

[illegible]

*Marks*

|    |    |
|----|----|
| KU | RE |
|----|----|

12. The top of Eve's table is a rectangle, 126 centimetres long and 50 centimetres broad.



- (a) Calculate the area of the top of the table.

WORKING

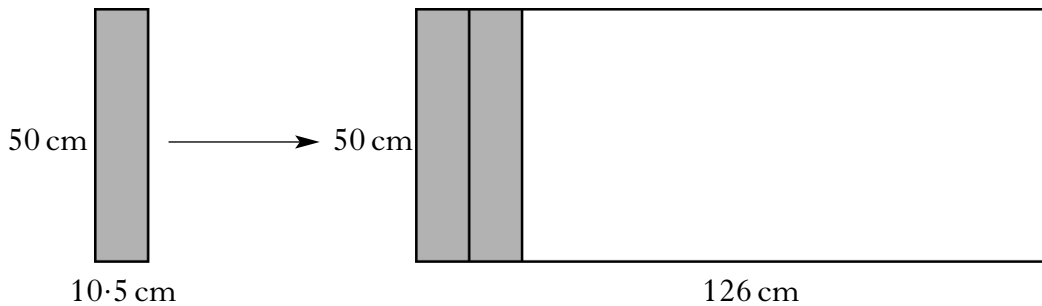
ANSWER

square centimetres

2

[illegible]

(b) Eve decides to fit wooden strips onto the table top as shown below. Each strip measures 50 centimetres by 10.5 centimetres.



Calculate the number of wooden strips needed to cover the top of the table.

|         |               |
|---------|---------------|
| WORKING |               |
| ANSWER  | wooden strips |

2

13. The formula below is used to find the expected height, in centimetres, of children between the ages of two and twelve years.

Expected Height = 5 × Age in years + 80

What age is a child whose expected height is 100 centimetres?

|         |           |
|---------|-----------|
| WORKING |           |
|         |           |
| ANSWER  | years old |

| Marks | KU | RE |
|-------|----|----|
|       |    |    |
| 3     |    |    |
|       |    |    |



[illegible]

- 
- A diagram of a thermometer scale. The scale is a semi-circular arc with tick marks. Major tick marks are labeled 40, 60, and 80. There are 10 minor tick marks between each major tick mark, representing 2-degree increments. A black arrow points to the 70-degree mark. Below the scale, the text "Degrees Fahrenheit (°F)" is written.

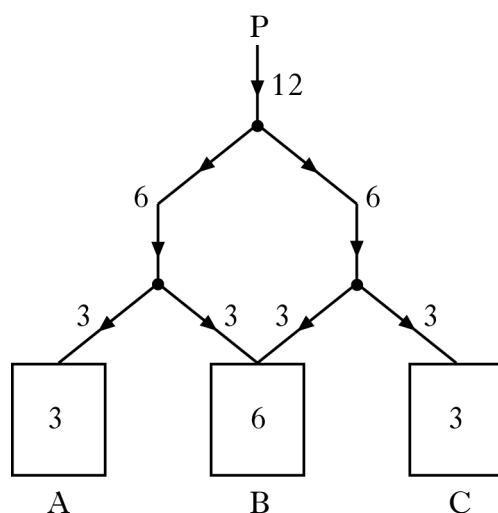
|        |    |
|--------|----|
| ANSWER | °F |
|--------|----|

2

15. When sheep are taken by a shepherd to a junction, half of the sheep take one path and half the other.

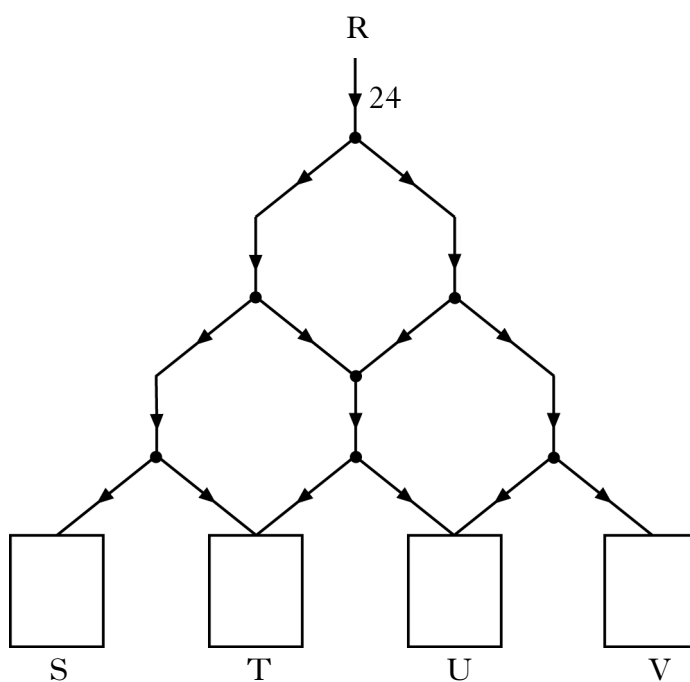
12 sheep start at point P.

The diagram below shows how many sheep then arrive in pens A, B and C.



24 sheep start at point R.

Show clearly **how** they separate at each junction **and** how many arrive in pens S, T, U and V.



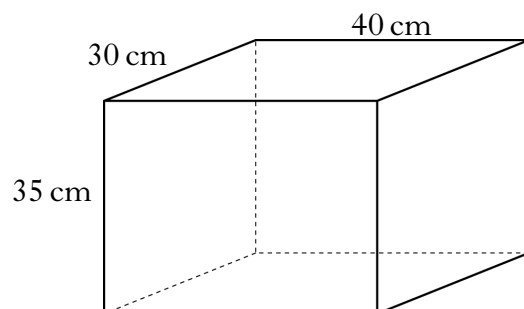
3

*Marks*

KU

RE

- 16.** Ed makes a footstool. It is in the shape of a cuboid, 40 centimetres long, 30 centimetres broad and 35 centimetres high.



- (a) Calculate the volume of Ed's footstool.

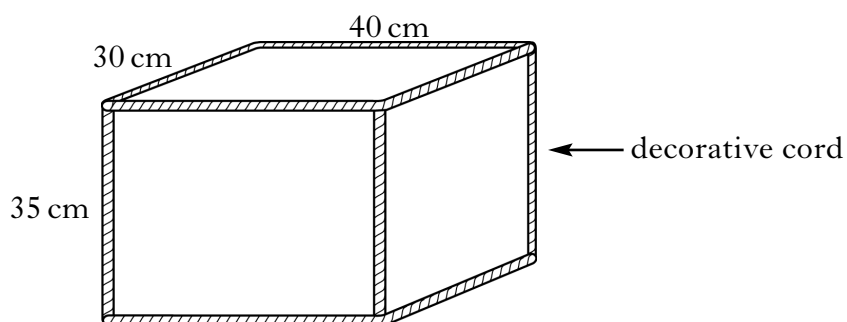
WORKING

ANSWER

cubic centimetres

2

- (b) Ed fills the footstool with foam and then puts a decorative cord around **all** the edges.



Calculate the **total length** of the decorative cord Ed needs to go around **all** the edges of the footstool.

WORKING

ANSWER

centimetres

3

[END OF QUESTION PAPER]

**ADDITIONAL SPACE FOR ANSWERS**