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NATIONAL
QUALIFICATIONS
2009

WEDNESDAY, 6 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
$\square$
Forename(s)


Date of birth Day Month Year


Scottish candidate number


Town
$\square$
Surname


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.


1. Six friends go for a meal.

The total bill is $£ 122 \cdot 64$.
They share the bill equally.
How much does each person pay?

2. A garage has installed a drinks machine for its customers.

The drink can be Tea or Coffee The size can be Large or Small The colour can be Black or White The table below shows one possible combination.


| Drink | Size | Colour |
| :---: | :---: | :---: |
| Tea | Small | White |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Complete the table to show five other combinations.
3. A matchbox is in the shape of a cuboid.

It is 6 centimetres long, 4 centimetres broad and 3 centimetres high.


Calculate the volume of the matchbox.

4.

A florist displays vases of flowers using boxes as shown below.

(a) Complete this table.

| Number of boxes | 1 | 2 | 3 | 4 | 5 | 6 |  | 11 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Number of vases | 3 | 5 |  |  |  |  |  |  |

## WORKING

(b) Write down a rule for finding the number of vases if you know the number of boxes.

## RULE

5. This table shows the cost of a room per week in three different hotels.

|  | COST PER WEEK |  |  |
| :--- | :---: | :---: | :---: |
|  | January | February | March |
| Hotel Spruce | $£ 230$ | $£ 240$ | $£ 255$ |
| Hotel Alpine | $£ 215$ | $£ 235$ | $£ 250$ |
| Hotel Nordic | $£ 190$ | $£ 220$ | $£ 240$ |

(a) Pierce stays in Hotel Nordic for one week in March.

How much does it cost him?

| ANSWER | $£$ |
| :--- | :--- |

(b) Fiona pays $£ 470$ for a two week stay in one of these hotels. Which hotel did Fiona stay in and in which month?
$\square$
6. One of the coldest temperatures recorded in Scotland is shown on the thermometer below.


What temperature does the thermometer show?
ANSWER $\quad{ }^{\circ} \mathrm{C}$
7. Bellforth Academy has raised money for the victims of an earthquake.

The bar graph shows how much was raised by each year group.

(a) Which year group raised the most money?

## ANSWER

(b) What was the total amount raised by Bellforth Academy?

| WORKING |  |
| :--- | :--- |
|  |  |
|  |  |
|  |  |
| ANSWER | $£$ |

8. 

To donate blood you must:

- be aged 17 or over
- weigh more than 8 stones
- wait at least 16 weeks since your last donation.


## DONATE BLOOD

Give your blood and save a life

|  | Age | Weight <br> (stones) | Weeks since <br> last donation |
| :--- | :---: | :---: | :---: |
| John | 24 | 10 | 14 |
| Paul | 32 | 12 | 20 |
| Anne | 45 | 7 | 35 |
| Steven | 19 | 11 | 17 |

Which two people could not donate blood?
Give the reason why each person could not donate blood.

9. Anna needs 83 tiles for her bathroom.

The tiles are only sold in boxes of 10 .

Each box of tiles costs $£ 24$.
How much will Anna pay for her tiles?

10. This pie chart shows the different types of staff employed by a company.

(a) What percentage of the staff work in production?

(b) 1200 people work for the company.

How many of them work in sales?

11. Donald weighs himself every month for 6 months.

The weights (in kilograms) are listed below.

$$
\begin{array}{llllll}
83 & 81 & 78 & 80 & 78 & 77
\end{array}
$$

Calculate Donald's mean weight over the 6 months.

| WORKING |  |  |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  | kilograms |
| ANSWER |  |  |

12. Kitchen Display has designed a glass sign to place outside its shop.

The design is based on the letters K and D as shown below.


The design has one large piece of glass and two identical smaller pieces of glass.

Calculate the size of the shaded angle.

| WORKING |  |
| :--- | :--- |
|  |  |
|  |  |
|  |  |
|  |  |
| ANSWER | $\circ$ |

13. A firework display is being prepared.


For safety, a circular fence is erected as shown on the plan below.

(a) On the plan, measure the distance, in centimetres, from the centre of the display to the safety fence.

| ANSWER | centimetres |
| :--- | :--- |

The scale of the plan is $\mathbf{1}$ centimetre represents $\mathbf{3}$ metres.
(b) Find the actual distance from the centre of the display to the safety fence.

| WORKING |  |  |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |
| ANSWER |  | metres |

14. This is a rule used to convert kilometres to miles.

## Number of miles $=5 \times$ Number of kilometres $\div 8$

Jozef ran a 10 kilometre race.
Calculate how many miles Jozef ran.

| WORKING |  |  |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  | miles |
| ANSWER |  |  |

15. Samantha made a rectangular wall display using her favourite compact discs.


Each compact disc has a radius of 6 centimetres.
The breadth of the display is 36 centimetres.
Calculate the length of the display.

| WORKING |  |
| :--- | :--- |
|  |  |
|  |  |
|  |  |
| ANSWER |  |

16. To improve her fitness, Louise has been set a target of powerwalking 200 miles in 3 months.
She walks

- 1 mile every day in March
- 2 miles every day in April
- 3 miles every day in May.

Did Louise meet her target?
You must give a reason for your answer.

[END OF QUESTION PAPER]

