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NATIONAL QUALIFICATIONS 2010

WEDNESDAY, 5 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)



Town
$\square$
Surname


Date of birth


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. A joiner is paid a basic rate of $£ 23 \cdot 75$ per hour.

He is paid double time when he works on a Sunday.
How much is he paid for working 8 hours on a Sunday?


## WORKING

 $£$2. A fence is to be put around the perimeter of this field.

(a) What is the total length of fencing needed?

(b) Fencing costs $£ 2 \cdot 50$ per metre.

How much will the fence cost?

3. Anne is drawing crosses. Each cross is made up of squares as shown.


Cross
number 1


## Cross number 2



Cross number 3
(a) Complete this table.

| Cross number | 1 | 2 | 3 | 4 | 5 | 6 |  | 11 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Number of squares | 5 | 9 |  |  |  |  |  |  |

## WORKING

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

## RULE

4. The expenses for an Orienteering club outing are shown below.

| Petrol for Minibus | $£$ | 45.84 |
| :--- | :--- | :--- |
| Lunches | $£$ | 67.72 |
| Maps | $£$ | 27.50 |
| Entry Fees to Course | $£$ |  |
| Total Expenses | $£ 222.81$ |  |



Calculate the cost of the Entry Fees to the Course.

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

5. The timetables below show the times of the ferries between Ardrossan and Brodick.

| Ardrossan | Brodick |
| :--- | :--- |
| Depart | Arrive |
| 0700 | 0755 |
| 0945 | 1040 |
| 1230 | 1325 |
| 1515 | 1610 |
| 1800 | 1855 |


| Brodick | Ardrossan |
| :--- | :--- |
| Depart | Arrive |
| 0820 | 0915 |
| 1105 | 1200 |
| 1350 | 1445 |
| 1640 | 1735 |
| 1920 | 2015 |

(a) How long does the ferry take from Ardrossan to Brodick?

| ANSWER | minutes |
| :--- | :--- |

(b) One day Sophia took the first ferry from Ardrossan to Brodick and the last ferry back.

How long did Sophia spend in Brodick?

| WORKING |  |  |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |
|  |  |  |
|  | hours | minutes |
| ANSWER |  |  |

6. Cubes are stacked in a corner as shown below.


How many cubes are in the stack?

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

7. 



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

(b) What is this weight in grams?

## WORKING

8. The number of hours of sunshine in a town is being recorded over a seven-day period.

The results for Sunday to Thursday are shown in the table below.

| Day | Sunday | Monday | Tuesday | Wednesday | Thursday |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Hours of <br> sunshine | 8 | 6 | 7 | 10 | 5 |

(a) Complete the pictograph below for Wednesday and Thursday.

(b) There was a total of 43 hours of sunshine in the week.

Friday had one less hour of sunshine than Saturday.
Complete the table for Friday and Saturday.

9. The amount of money spent by the Khan family each week for four different weeks is listed below.
£170
$£ 122$
£110
$£ 130$

Calculate the mean amount spent each week.

## WORKING

10. Alex recorded the number of fouls and the number of goals scored by five local hockey teams one Saturday afternoon.


Alton had 6 fouls and scored 4 goals.
(a) How many goals were scored by Beaton?

| ANSWER | goals |
| :--- | ---: |

(b) Use the clues below to label each dot on the diagram with the correct team name.

- Daiton scored the same number of goals as Alton.
- Beaton scored twice as many goals as Exton.
- Chelton had the same number of fouls as Beaton.


## WORKING

11. The sail on a boat is in the shape of a right angled triangle as shown below.

$$
2 \cdot 5 \mathrm{~m}
$$



Find the area of the triangle.

12. The diagram below shows the number of spectators who can sit in each of the four stands at a Premiership football stadium.

(a) How many spectators can sit in the stadium?

(b) To allow more spectators to see the football matches, the South Stand will be enlarged.
The number of spectators allowed into the South Stand will be increased by $25 \%$.
Find the total number of spectators the stadium will then hold.

13. Ronnie Higgins plays snooker at his club.

One day he placed 28 snooker balls beside his snooker cue as shown below. He noticed that they made a line exactly the same length as his snooker cue.

## 0000000000000000000000000000

Ronnie knows that his cue is $145 \cdot 6$ centimetres long.
Calculate the radius of one snooker ball.

14. The guidelines for cooking a small turkey are 45 minutes per kilogram plus a further 20 minutes.


This gives the formula for cooking a small turkey.

Cooking time in minutes $=$ weight in kilograms $\times 45+20$
(a) Calculate the cooking time in minutes for a small turkey weighing 3 kilograms.

(b) The guidelines for cooking a medium turkey are 40 minutes per kilogram plus a further 25 minutes.

Complete the formula for cooking a medium turkey.

Cooking time in minutes $=$

|  |  |
| :--- | :--- |
|  |  |
|  |  |
|  |  |
|  |  |

