02
Rewarding Learning

General Certificate of Secondary Education 2011


## Mathematics

Module N5 Paper 2
(With calculator)
Foundation Tier
[GMN52]
MONDAY 6 JUNE
$2.45 \mathrm{pm}-3.45 \mathrm{pm}$

## TIME

1 hour.

## INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Write your answers in the spaces provided in this question paper.
Answer all fifteen questions.
Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

## INFORMATION FOR CANDIDATES

The total mark for this paper is 56 .
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.
You should have a calculator, ruler, compasses, set-square and protractor.
The Formula Sheet is on page 2.

| For Examiner's <br> use only |  |
| :---: | :---: |
| Question <br> Number | Marks |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |

Total Marks
$\square$

## Formula Sheet

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


Volume of prism $=$ area of cross section $\times$ length


1 (a) Draw a line of symmetry on the diagram below.

| Examiner Only |  |
| :--- | :--- |
| Marks | Remark |

(b) (i) In the space below draw a sketch of a square-based pyramid.
(ii) Using your pyramid, work out the answer to the following calculation.

Number of faces + number of vertices - number of edges
Show your working.

## Answer

$\qquad$ [2]
[Turn over

F

2 (a) Write down the temperature shown on the thermometer.


Answer $\qquad$ ${ }^{\circ} \mathrm{C}[1]$
(b) Write down the reading from the timer.

Answer $\qquad$ hrs $\qquad$ mins [1]

Examiner Only Marks Remark

(c) The speedometer below shows the speed in $\mathrm{km} / \mathrm{h}$.

Examiner Only

| Marks | Remark |
| :--- | :--- |


(i) What speed is shown?

Answer $\qquad$ $\mathrm{km} / \mathrm{h}$ [1]
(ii) On the speedometer draw an arrow to show a speed of $158 \mathrm{~km} / \mathrm{h}$.
(iii) What is the difference between the speed in (i) and the speed in (ii)?
$\qquad$ $\mathrm{km} / \mathrm{h}$ [1]

3 The Print Pot advertise printing costs as
Cost $($ pence $)=35 \times$ colour prints $+10 \times$ black and white prints
(a) Gemma gets 3 colour prints and 2 black and white prints.

Work out the cost in pounds (£).

Answer £ $\qquad$ [2]
(b) The Fast Print advertise their printing costs as

$$
\text { Cost }(\text { pence })=30 \times \text { number of prints }+90
$$

How much would Gemma have paid in The Fast Print?

Answer $£$ $\qquad$ [2]
Examiner Only Marks ${ }^{2}$ Remark

Total Question 3

4 The following temperatures were recorded in ${ }^{\circ} \mathrm{C}$ over a period of time

$$
12, \quad-2, \quad 7, \quad-9, \quad 13, \quad-14, \quad 6, \quad-10
$$

From the list write down
(a) the warmest temperature,

Answer $\qquad$ ${ }^{\circ} \mathrm{C}$ [1]
(b) the coldest temperature.

Answer $\qquad$ ${ }^{\circ} \mathrm{C}[1]$

5 Land area can be measured in hectares or in acres.
The conversion graph shows how to convert between hectares and acres.

(a) How many hectares are in 220 acres?

Answer $\qquad$ hectares [1]
(b) Work out the number of acres in 150 hectares.

Answer $\qquad$ acres
(c) Complete the sentence

An acre is $\qquad$ times greater than a hectare. [1] $\square$
[Turn over

6 The spinner below is a regular octagon. It can land on any name.

(a) Which name is the spinner most likely to land on?

Answer $\qquad$
(b) Which two names is the spinner equally likely to land on?

> Answer
$\qquad$ , $\qquad$ [1]
(c) Write down a name which the spinner cannot land on.

Answer
(d) Is the spinner more likely to land on a boy's or girl's name?

Answer $\qquad$
(e) The spinner is spun 200 times. How many times would you expect it to land on the name Lisa?


7

## A H J N P S W X

(a) Write down the two letters from above which have exactly one line of symmetry.

Answer $\qquad$ , $\qquad$
(b) Write down the two letters from above which have rotational symmetry of order 2 and two lines of symmetry.

Answer $\qquad$ , $\qquad$ [2]
(c) Write down the two letters from above which have rotational symmetry of order 2 and no lines of symmetry.

> Answer
$\qquad$ , $\qquad$ [2] ,

8 Put brackets in the following statements to make them true
(a) $5 \times 4+3-2=33$
(b) $9-3 \times 2+7=54$

9800 tickets numbered 1 to 800 are sold for a raffle.
(a) What is the probability that the winning ticket has a number greater than 550 ?

## Answer

$\qquad$
(b) The probability that a male has the winning ticket may not be $\frac{1}{2}$. Explain why.

Answer $\qquad$
$\qquad$
10 （a）What 5－sided shape has rotational symmetry of order 5？
Answer $\qquad$
（b）Enlarge the shape below using a scale factor of 2


11 The exchange rate for $£$ to euro was $£ 1=€ 1.15$

| Examiner Only |  |
| :---: | :---: |
| Marks | Remark |

Jim bought a pair of jeans which cost $€ 90$
How much did the jeans cost in $£$ ?

Answer £ $\qquad$ [2]

12 Tony selects a ball at random from a bag containing 8 blue, 1 green and 4 white balls.

What is the probability that Tony selects a
(a) green ball?

Answer $\qquad$ [1]
(b) white ball?

Answer $\qquad$
(c) ball which is not white?

Answer $\qquad$
(d) red ball?

Answer $\qquad$ [1]
(e) blue or a green ball?

T
Total Question 11
$\square$



14


The diagram represents the side view of a garden shed with a sloping roof. Calculate the area of the side view of the shed.
Give your answer to an appropriate degree of accuracy.

Answer $\qquad$ $\mathrm{m}^{2}$ [3]


Total Question 14

15 To calculate the amount of income tax on his earnings, Tom used the following information.

Total earnings $=£ 24,265$
Tax free personal allowance $=£ 5,895$
$10 \%$ tax on first $£ 3,200$ of taxable income
$28 \%$ tax on taxable income from $£ 3,201$ to $£ 42,600$
What total amount of income tax should he have calculated?

Total Question 15
Answer £ $\qquad$ [4]


## THIS IS THE END OF THE QUESTION PAPER

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