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Rewarding Learning

General Certificate of Secondary Education
January 2012

Mathematics

Module N5 Paper 1
(Non-calculator)
Foundation Tier

[GMN51]

GMN51

MONDAY 16 JANUARY
9.15 am–10.15 am

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
Total Marks	

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.
You **must not** use a calculator for this paper.

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 ruler, compasses, set-square and protractor.
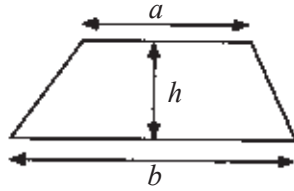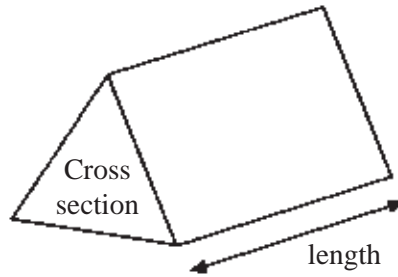The Formula Sheet is on page 2.

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Formula Sheet

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

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

1

B ⟶
9.7

A ⟶
9.6
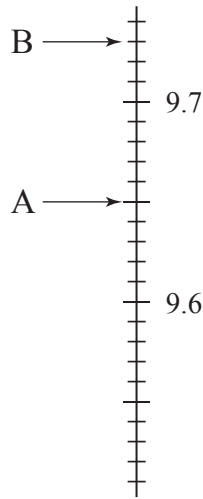
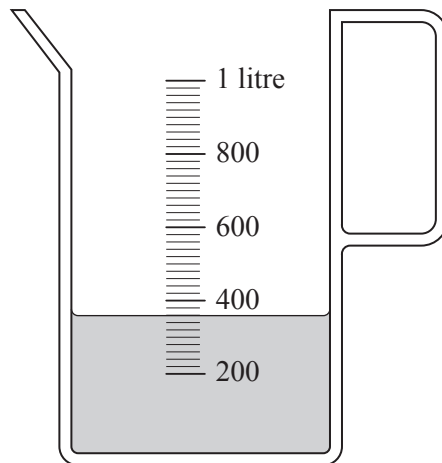**(a) (i)** What is the scale reading shown by arrow A?

Answer _____ [1]

(ii) What is the difference between the scale readings of A and B?

Answer _____ [2]

(b)

1 litre

800

600

400

200

(i) How many millilitres of water are in the jug?

Answer _____ ml [1]

(ii) Another 240 millilitres of water are added to the jug. Shade to
show the level of water now in the jug. [1]

[Turn over

2 (a) Complete the reflection of the shape in the mirror line.
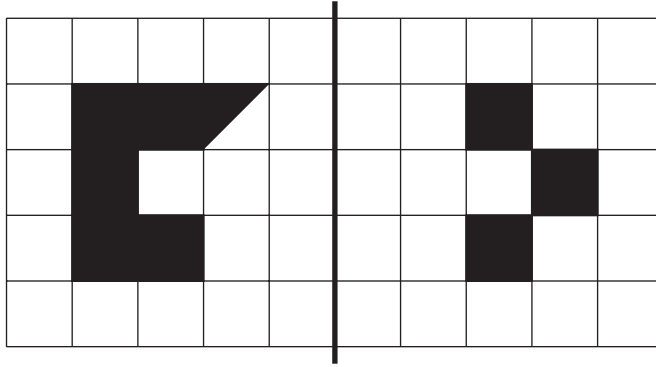
[2]

(b) Draw the reflection of the shape in the mirror line.
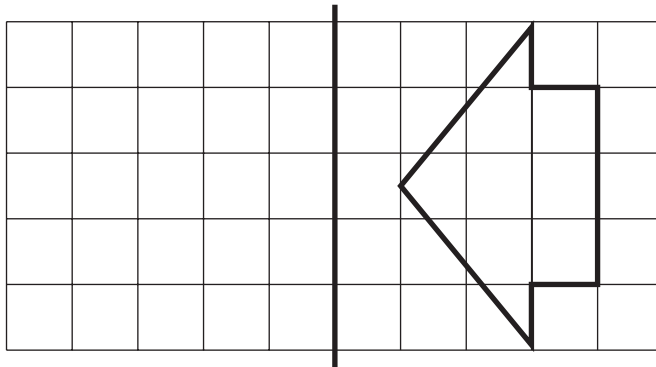
[2]

3

| Impossible | Unlikely | Evens | Likely | Certain |

Choose a word from the box which best describes the likelihood of each of these events.

(a) The next baby to be born in the world will be a girl.

Answer _____ [1]

(b) The next person you meet will be left-handed.

Answer _____ [1]

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(c) A number less than 5 will be scored when a normal six-sided dice is rolled.

<div align="right">

Answer _____ [1]

</div>

(d) 31st December comes before 1st January in the same year.

<div align="right">

Answer _____ [1]

</div>

4 Name the shapes below

(a)

<div align="right">

Answer _____ [1]

</div>

(b)

<div align="right">

Answer _____ [1]

</div>

(c)

<div align="right">

Answer _____ [1]

</div>

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[Turn over

5 **(a)** Estimate $\quad 98 \times 7.1$

Answer _____ [2]

(b) Estimate how many packets of crisps costing 38p each could be bought for £4.

Answer _____ packets [2]

6 Oil is sold in litres or gallons.

Litres	0	500	1000
Gallons	0	110	220

(a) Use the values in the table to draw the conversion graph on the grid below.

gallons

litres

[3]

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(b) Use your graph to convert 100 gallons to litres.

Answer _____ litres [1]

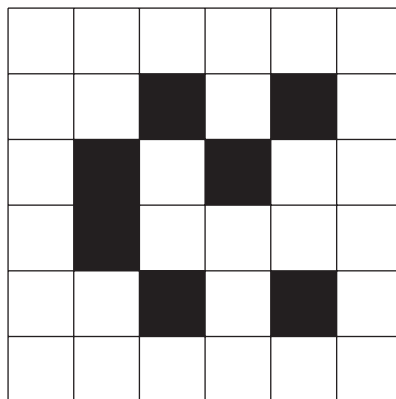**(c)** Alan bought 750 litres of oil and Brian bought 150 gallons of oil.

Who bought more oil? Give a reason for your answer.

Answer _____ because _____

_____ [2]
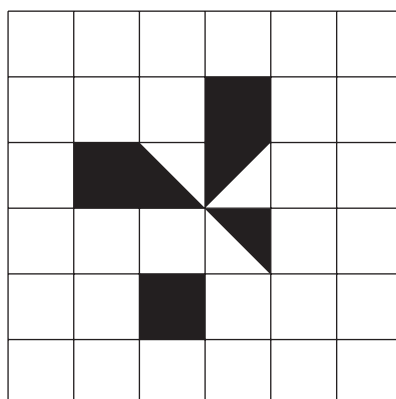
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7 **(a)** Shade **one** more square so that the pattern has only one line of symmetry.

[1]

(b) Shade **one more triangle** and **one more square** so that the shape has rotational symmetry of order 4.

[2]

[Turn over

8 Circle the correct answer to complete each sentence.

(a) 14 pints of milk is approximately

  2 litres   8 litres   20 litres   [1]

(b) The length of a 25 metre swimming pool is approximately

  20 feet   50 feet   80 feet   [1]

(c) The weight of a hen's egg is approximately

  80 pounds   80 grams   80 ounces   [1]

---

9 (a) Calculate $6 + 8 \div 2$

Answer _____ [1]

(b) Insert brackets into this calculation to make it correct.

$$14 - 10 \div 2 + 3 = 6$$ [1]

(c) Insert the correct symbol from $+, -, \times$ or $\div$ into the box in order to make this calculation correct.

$$5 + 3(10 - 6 \boxed{} 2) = 26$$ [1]

(d) Calculate

  (i) $(-14) \div 2$ Answer _____ [1]

  (ii) $(-6) \times (-4)$ Answer _____ [1]

10 £6 000 is invested for 2 years at 4% per year **simple interest**. How much money **in total** is there at the end of the 2 years?

Answer £ _____ [2]

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11 **(a)** Use the formula R = 4S + 7T to find T when R = 64 and S = 9

Answer T = _____ [3]

(b) $a = \dfrac{b - c}{d}$

Calculate the value of a when $b = -6$, $c = 10$ and $d = 4$

Answer a = _____ [2]

[Turn over

12

Draw the image of the triangle after a translation 6 left and 1 up. [2]

13 (a) Given that $\dfrac{1560}{24} = 65$ write down the answer to

(i) $\dfrac{1560}{240}$ Answer _____ [1]

(ii) 2.4×6.5 Answer _____ [1]

(b) Estimate $\dfrac{213}{0.39}$

Show your working.

              Answer _____ [2]

(c) Write 0.45555… as a recurring decimal.

              Answer _____ [1]

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14 Boris plays a game of chess with his friend Gary.

He states, "I can win, draw or lose, so the probability that I will win must be $\frac{1}{3}$".

Explain why Boris is wrong.

_____

_____ [2]

15 Shade in the region of points which are nearer to B than A and less than 3 cm from A. [3]

B •

A •

_____

THIS IS THE END OF THE QUESTION PAPER

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