Rewarding Learning

Centre Number

71	

Candidate Number

General Certificate of Secondary Education
2011

Mathematics

Module N1 Paper 2
(With calculator)
Foundation Tier

[GMN12]

TUESDAY 31 MAY

10.30 am – 11.15 am

GMN12

TIME

45 minutes.

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 twelve** 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 44.
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.

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

Examiner Only	
Marks	Remark

1 (a)

The triangle is divided into 9 equal parts.

Write down, **in its simplest form**, the fraction of the triangle which is **shaded**.

Answer _____ [2]

(b) Write $\frac{2}{5}$ as a percentage.

Answer _____ % [1]

(c) Write 5634 to the nearest 100

Answer _____ [1]

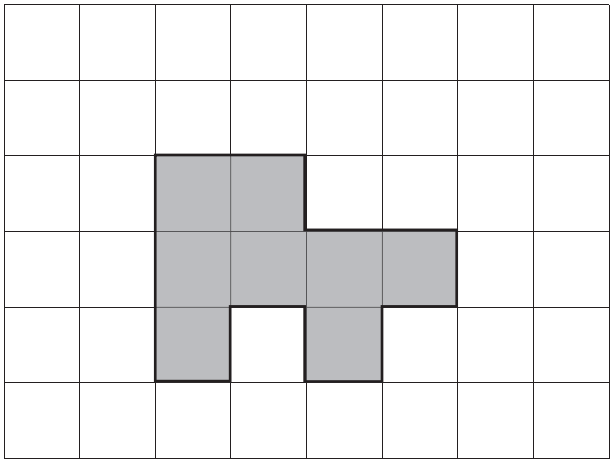
(d) Write down the two fractions from this list which are **not** equal to $\frac{3}{4}$

$$\frac{9}{12} \quad \frac{15}{20} \quad \frac{3}{12} \quad \frac{12}{16} \quad \frac{15}{25}$$

Answer _____ , _____ [2]

Examiner Only	
Marks	Remark

2 **(a)** A shape is drawn on a centimetre square grid.



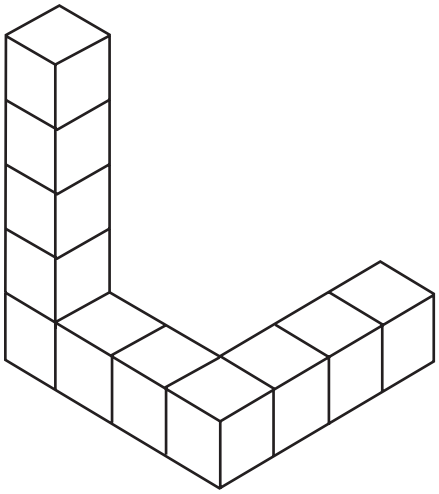
(i) Work out the perimeter of the shape above.

Answer _____ cm [1]

(ii) Work out the area of the shape above.

Answer _____ cm^2 [1]

(b) This solid is made of centimetre cubes.



What is the volume of this solid?

Answer _____ [2]

Examiner Only	
Marks	Remark

3 The following scores were obtained in a test.

8, 5, 9, 6, 4, 7, 9, 8, 5, 7, 8, 6, 8, 7, 6

Find

(a) the median,

Answer _____ [2]

(b) the mode.

Answer _____ [1]

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4 **(a)** Write down the number forty-one thousand and twenty-two in figures.

Answer _____ [1]

(b) Calculate $\sqrt{2.25}$

Answer _____ [1]

(c) Write down the largest of these three numbers.

0.4677 0.462 0.47

Answer _____ [1]

(d) Write 72.06619 correct to two decimal places.

Answer _____ [1]

(e) Write 23.35 correct to three significant figures.

Answer _____ [1]

5 Look at the pattern of squares and triangles.

Examiner Only	
Marks	Remark

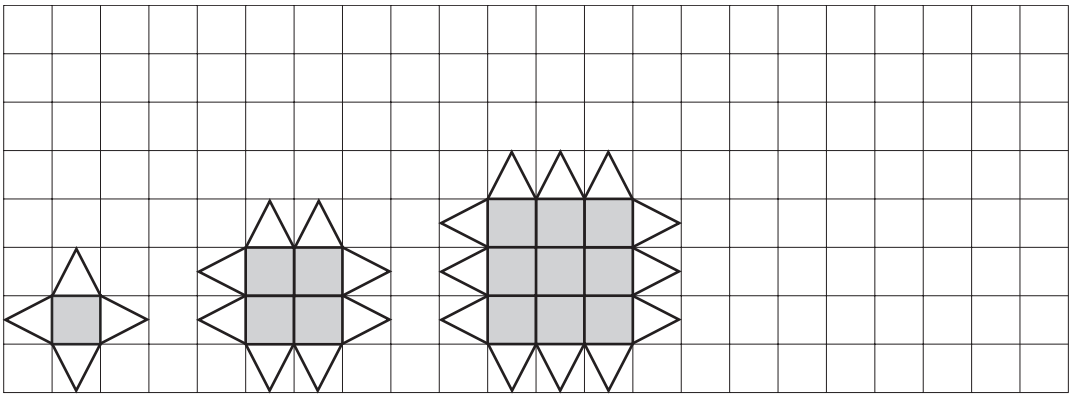

Diagram 1 Diagram 2 Diagram 3 Diagram 4

(a) On the grid, draw Diagram 4 [1]

(b) Complete the table below.

Diagram	**1**	**2**	**3**	**4**	**5**
Number of squares	1	4	9		
Number of triangles	4	8	12		

[2]

(c) If the pattern was continued one diagram would have 64 squares. How many triangles would be in that diagram?

Answer _____ [2]

Examiner Only	
Marks	Remark

6 The number of boys attending football practice each week was recorded.

23 13 25 16 22 15 19 16 15 16

What was the mean number of boys?

Answer _____ [3]

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7 Renee has £20 to buy as many pens as possible at 35p each.

(a) How many pens can she buy?

Answer _____ [2]

(b) How much change should she get?

Answer _____ p [1]

Examiner Only	
Marks	Remark

8 Here is a **sketch** of a triangular field.

The side AB is 220 m long, the side AC is 120 m long and the angle BAC is 50°.

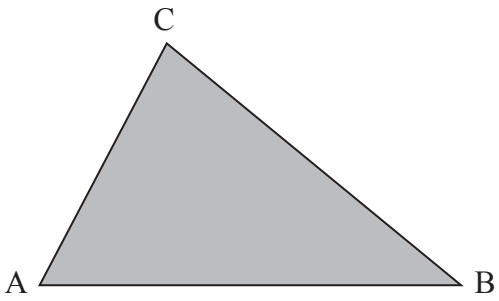


Diagram not drawn accurately

(a) Using a scale of 1 cm = 20 m, make an accurate scale drawing of the field. The line AB has already been drawn for you.

A ——————————————————— B

220 m

[2]

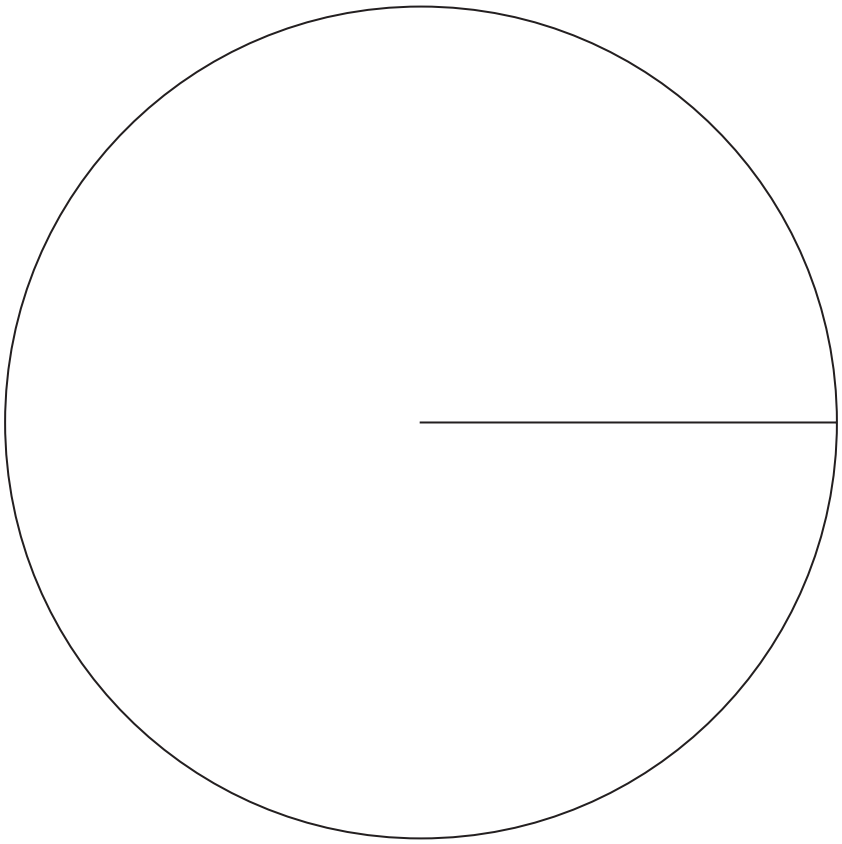
(b) Use your scale drawing to find the size of the angle ACB.

Answer _____° [1]

9 The number of buns sold in a bakery was recorded as follows.

Cream	16
Fruit	10
Jam	9
Chocolate	25

Draw a pie chart to illustrate this information.



[4]

10 Simplify $8x - 3 - 2x + 5$

Answer _____ [2]

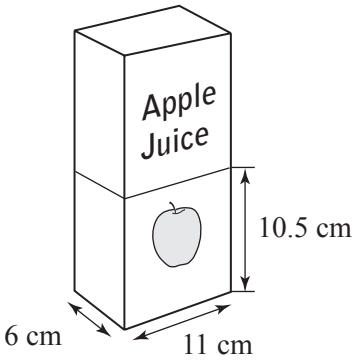
Examiner Only

Marks	Remark

Examiner Only	
Marks	Remark

11 **(a)** A rectangular carton holds apple juice. The base of the carton has dimensions of 6 cm and 11 cm. The height of the juice in the carton is 10.5 cm above the base ($1\text{ cm}^3 = 1\text{ ml}$).

What is the volume of juice left in the carton in millilitres?



Answer _____ ml [2]

(b) John pours himself a glass of juice. The volume in the carton is now 412.5 ml.

What is the height of the juice above the base now?

Answer _____ cm [2]

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12 Calculate

(a) the cube root of 64

Answer _____ [1]

(b) $3.3^2 + 6^3$

Answer _____ [1]

THIS IS THE END OF THE QUESTION PAPER