Rewarding Learning

Centre Number	
71	

Candidate Number

General Certificate of Secondary Education
January 2010

Mathematics

Module N1 Paper 1
(Non-calculator)
Foundation Tier

[GMN11]

GMN11

TUESDAY 12 JANUARY

9.15 am – 10.00 am

TIME

45 minutes.

INSTRUCTIONS TO CANDIDATES

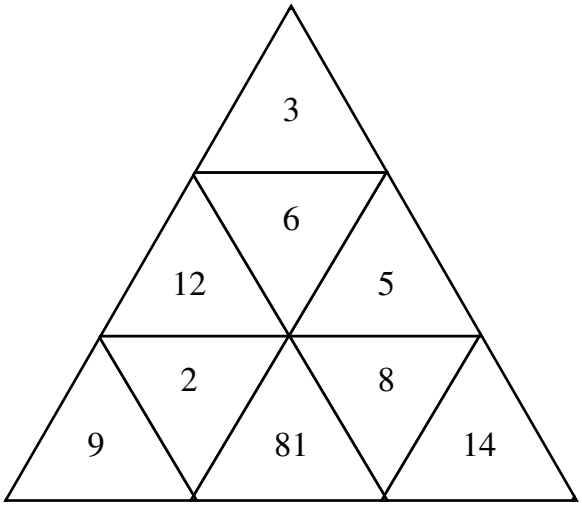
Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Write your answers in the spaces provided in this question paper.
Answer **all thirteen** questions.
Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.
You **must not** use a calculator for this paper.

INFORMATION FOR CANDIDATES

The total mark for this paper is 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 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	
13	
Total Marks	

1



Using the numbers in the grid, write down:

(a) two numbers with a product of 15

Answer _____ and _____ [1]

(b) two factors of 16

Answer _____ and _____ [1]

(c) a multiple of 7

Answer _____ [1]

(d) the number which is a square root of 9

Answer _____ [1]

Examiner Only	
Marks	Remark

2 A hotel has bedrooms on floors 4 to 8
The sign shows the room numbers on each floor.

Floor	Rooms
8	801–818
7	701–730
6	601–646
5	501–546
4	401–464
3	Conference rooms
2	Reception
1	Basement

(a) How many rooms are there on floor 6?

Answer _____ [1]

(b) What is the total number of bedrooms?

Answer _____ [2]

(c) Which of the floors 4 to 8 has least bedrooms? Suggest why this might be so.

Floor _____ Because _____

_____ [1]

Examiner Only

Marks	Remark

[Turn over

3 The database shows information on cars for sale in a garage.

Make	Model	Style	Year	Mileage (miles)	Engine (ℓ)	Fuel	Doors	Price (£)
Toyota	Auris	Hatchback	2007	40 000	1.2	Petrol	3	3500
Vauxhall	Astra	Hatchback	2006	45 000	1.8	Diesel	5	3800
Honda	Civic	Hatchback	2008	20 000	1.6	Petrol	5	8200
Renault	Megane	Saloon	2005	65 000	1.8	Diesel	4	3000
Toyota	Corolla	Hatchback	2009	12 000	1.4	Diesel	3	7000
Renault	Laguna	Estate	2008	32 000	2.0	Diesel	5	7800
Vauxhall	Vectra	Estate	2006	51 000	1.8	Petrol	5	6400
Ford	Mondeo	Saloon	2008	37 000	2.2	Diesel	4	8200
Renault	Megane	Hatchback	2008	24 000	1.4	Petrol	3	6500
Ford	Fiesta	Hatchback	2005	64 000	1.4	Petrol	3	1800

Examiner Only	
Marks	Remark

(a) What is the price of the cheapest Renault?

Answer £ _____ [1]

(b) A man wishes to buy a 3 door Hatchback.
How many cars can he choose from?

Answer _____ [1]

(c) A woman has a maximum of £7000 to spend.
She wishes to buy a 2008 or 2009 petrol car.
Which is the only car available to her? Write down the Make, Model and Style.

Answer: Make _____

Model _____

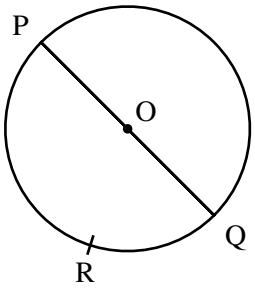
Style _____ [1]

(d) What is the range in the price of the cars?

Answer £ _____ [1]

Examiner Only	
Marks	Remark

4



P, Q and R are points on a circle. The point O is the centre of the circle.

(a) **Radius** **Diameter** **Chord** **Arc** **Circumference**

Choose from the words above to describe

(i) the line PQ,

Answer _____ [1]

(ii) the curved line QR.

Answer _____ [1]

(b) Draw a line through the point O, perpendicular to PQ. [1]

(c) Mark a point S on the circumference of the circle. [1]

5

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At midnight the temperature in a desert was –18 °C
By midday it had risen to 38 °C.

(a) By how many degrees had the temperature risen in these 12 hours?

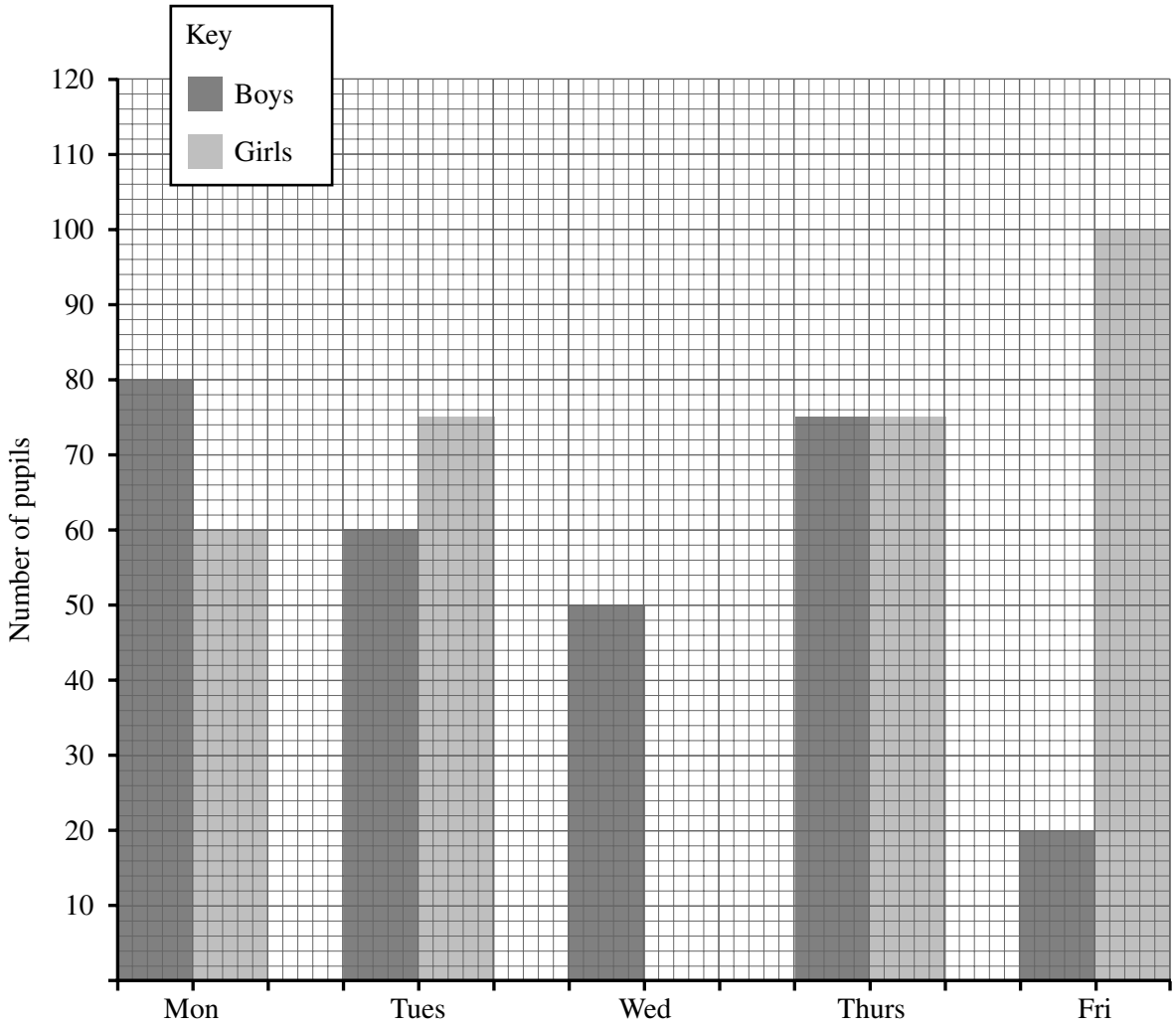
Answer _____ °C [1]

(b) In the next 12 hours, the temperature fell by 59 °C. What was the temperature then?

Answer _____ °C [1]

[Turn over

6 The bar chart shows the number of pupils using a school canteen during one week.



Examiner Only	
Marks	Remark

(a) On Wednesday, 15 more girls than boys used the canteen.
Complete the diagram to show this information. [1]

(b) On which day did most pupils use the canteen?

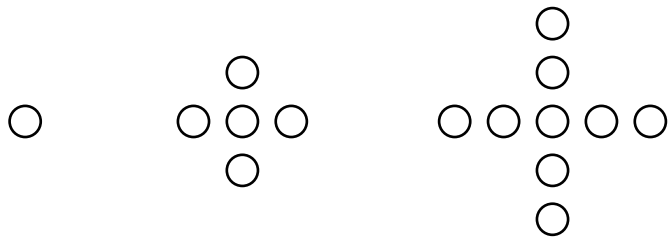
Answer _____ [1]

(c) The canteen manager states:
"Exactly 20% of those who used the canteen on Friday were boys."
Is this true? Explain your answer.

Answer _____ because _____

_____ [2]

7 Here is a sequence of patterns made using counters.



Pattern 1 Pattern 2 Pattern 3 Pattern 4

(a) Draw Pattern 4 above. [1]

(b) Complete the table below for the number of counters in patterns 4 and 5

	Pattern 1	**Pattern 2**	**Pattern 3**	**Pattern 4**	**Pattern 5**
Number of counters	1	5	9		

[1]

(c) Describe in words the rule for continuing the sequence of the number of counters.

Rule _____ [1]

Examiner Only

Marks	Remark

8 **(a)** Calculate the size of angle x in the diagram.

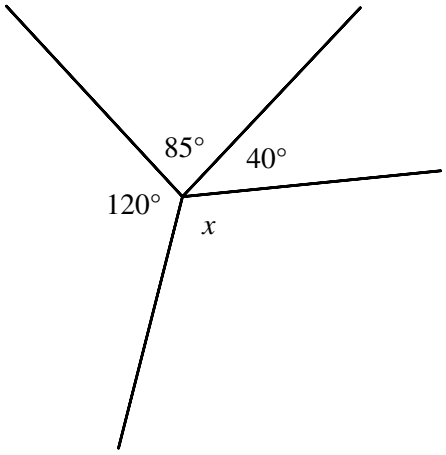
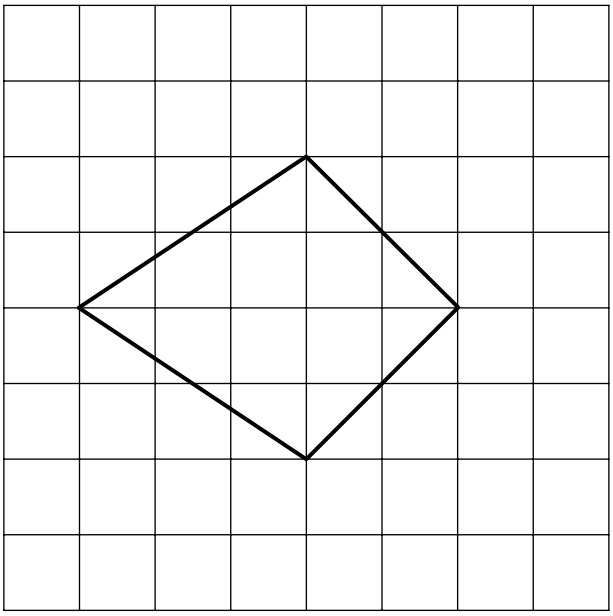


Diagram not drawn accurately

Answer _____° [2]

(b) Find the area of the shape on the 1 cm grid.



Answer _____ [2]

Examiner Only

Marks	Remark

9 **(a)** Write down 50.6073 correct to 2 decimal places.

Answer _____ [1]

(b) Put these decimals in order with the smallest first.

0.29 0.289 0.3

Answer _____ [1]

10 Simplify $7\ell - 3m + 4m - \ell$

Answer _____ [2]

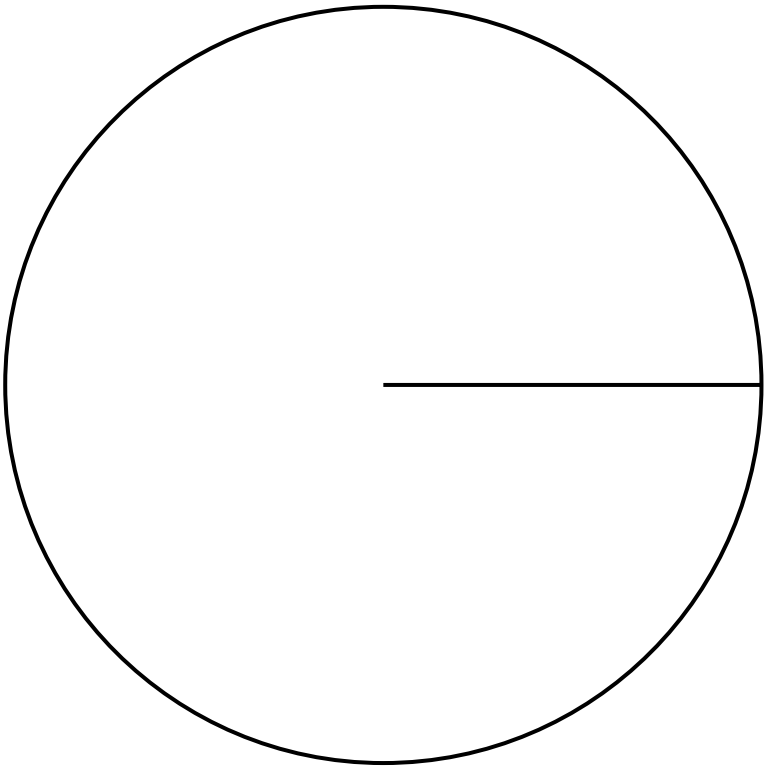
Examiner Only	
Marks	Remark

Examiner Only	
Marks	Remark

11 Year 10 pupils were asked the name of their mobile phone company. The results for the 120 pupils are shown in the table below.

Phone company	Number of pupils
In-tune	16
4-phones	48
Aweb	20
U Text	12
Other	24

Draw a pie chart to show the information in the table.



[4]

12 **(a)** Write down the next two prime numbers after 19

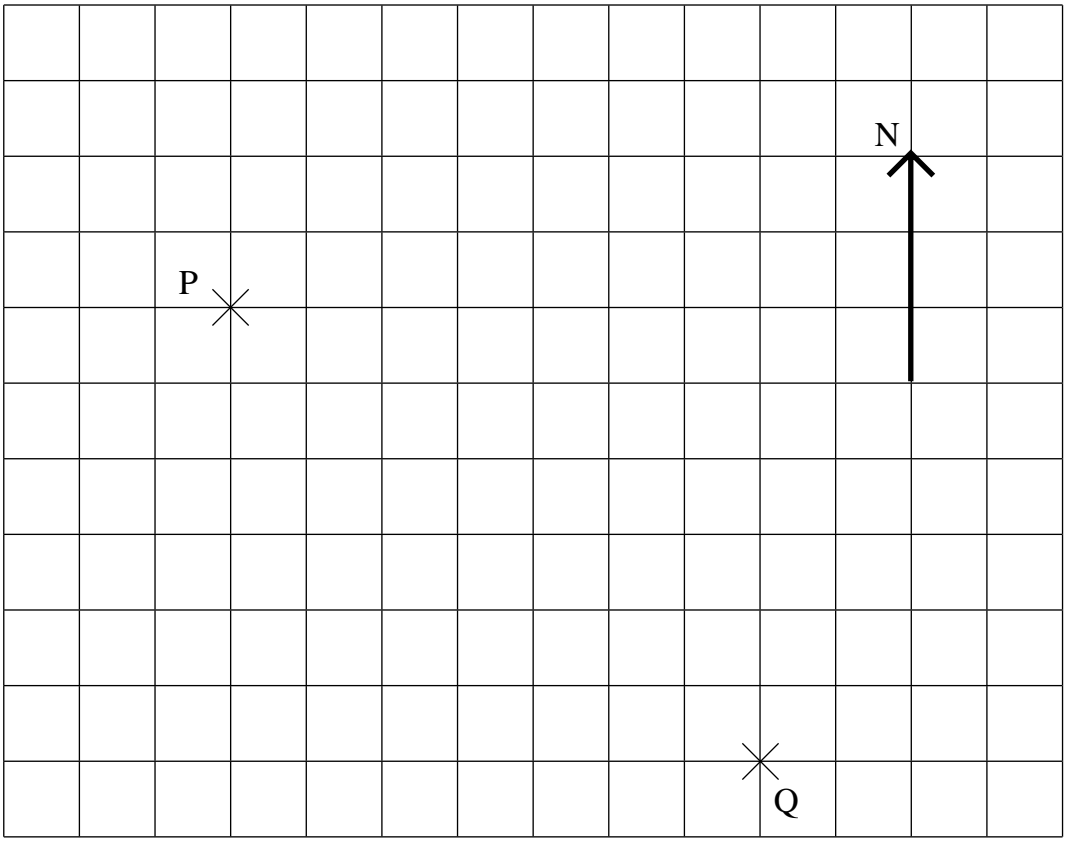
Answer _____ and _____ [2]

(b) Calculate $\frac{1}{3} \times \frac{2}{5}$

Answer _____ [1]

13 Two ships are at the points P and Q on the diagram.

Examiner Only	
Marks	Remark



(a) Measure the bearing of Q from P.

Answer _____° [1]

(b) The scale of the drawing is 1 cm to 5 km.
Work out the actual distance between the two ships.

Answer _____km [3]

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