

71
Candidate Num

General Certificate of Secondary Education January 2011

Mathematics



Module N5 Paper 2 (With calculator) Foundation Tier

[GMN52]

FRIDAY 14 JANUARY

10.45 am — 11.45 am



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 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 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.

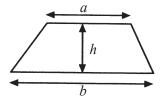
For Examiner's use only			
Question Number	Marks		
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

Total Marks	

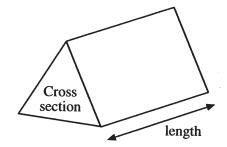
6513

Formula Sheet

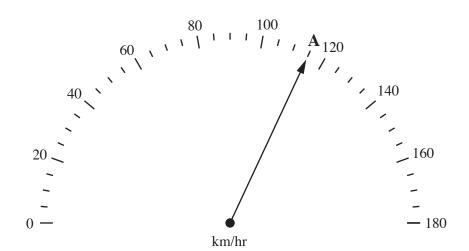
Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section \times length

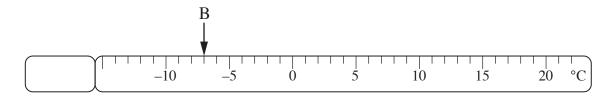


1 (a) What speed is indicated on the speedometer at A?



Answer km/h [1]

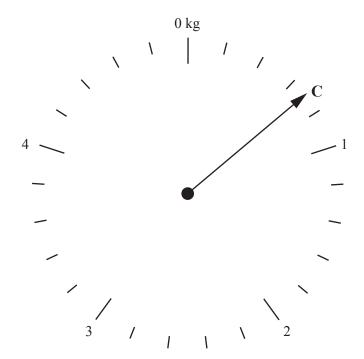
(b) What temperature is indicated on the thermometer at B?



Answer °C [1]

(c) (i) The scales below can measure up to 5 kg.

What weight, in **grams**, is indicated on the scales at C?



Answer _____ g [1]

(ii) Draw an arrow to show 2.1 kg.

[1]

2	(a)	Mae's basic rate of pay is £7.90 per hour. On Saturday she gets $1\frac{1}{2}$ times
		her basic rate of pay.

Mae worked 20 hours altogether from Monday to Friday and 4 hours on Saturday.

Calculate Mae's pay for the week.

Answer £ _____[4]

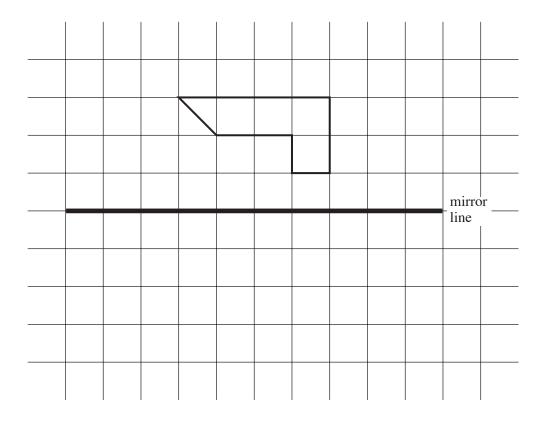
(b) That same week Joe worked 6 hours each day on Tuesday, Wednesday, Thursday and Friday. Joe earns £8.50 per hour. Who earned more and by how much?

Answer ____ earned ____ more [3]

3 (a) Draw the reflection of the shape in the mirror line.

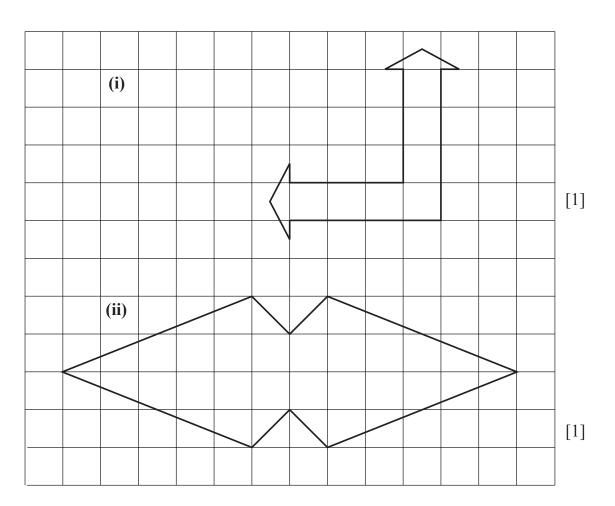
[2]

Examiner Only

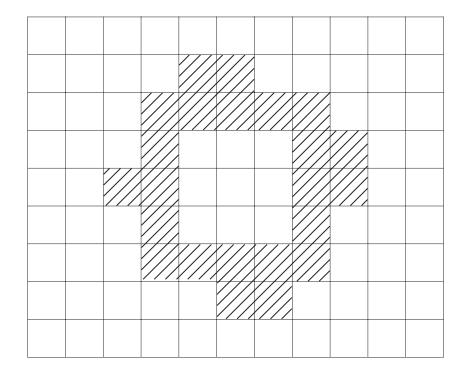


(b) Draw all lines of symmetry on each of the shapes shown below.

Examiner Only		
Marks	Remark	



(c) Shade one square to give the figure below rotational symmetry.



[1]

4 (a) The cost of hiring a Power Washer for a number of days from "Tools For U" is calculated using the formula

Examiner Only		
Marks	Remark	

Hire Charge (£) = $25 + 45 \times \text{Number of Days}$

(i) Calculate the cost of hiring a Power Washer for 3 days.

(ii) What is the maximum number of days you could hire the Power Washer for if you had £300?

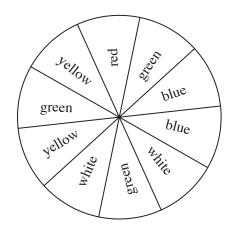
(b) The mean "M" of two numbers X and Y can be calculated using the formula

$$M = \frac{X + Y}{2}$$

Calculate M when X = 4.6 and Y = 6.2

Answer _____ [2]

5 (a)



Examiner Only

Marks Remark

Which colour is the spinner

(i) least likely to land on?

Answer _____ [1]

(ii) most likely to land on?

Answer [1]

(b) 100 tickets numbered from 1 to 100 were sold in a raffle. Calculate the probability that a ticket numbered more than 40 will win the first prize.

Answer _____ [2]

(c) A bag contains 21 discs with a letter written on each of them. 9 have the letter A, 7 have the letter G and 5 have the letter W.

One disc is selected at random.

Calculate, in its simplest terms, the probability that it has the letter A.

Answer _____ [2]

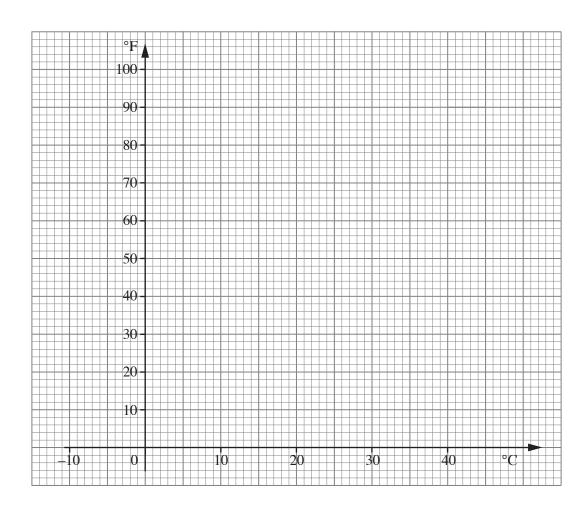
6 CONVERSION TABLE FROM CENTIGRADE (°C) TO FAHRENHEIT (°F)

°C	-5	0	5	10	15	20	25	30	35	40
°F	23	32	41	50	59	68	77	86	95	104



(a) Draw the conversion graph below.

[3]



- **(b)** Use your graph to convert
 - (i) 28 °C to °F

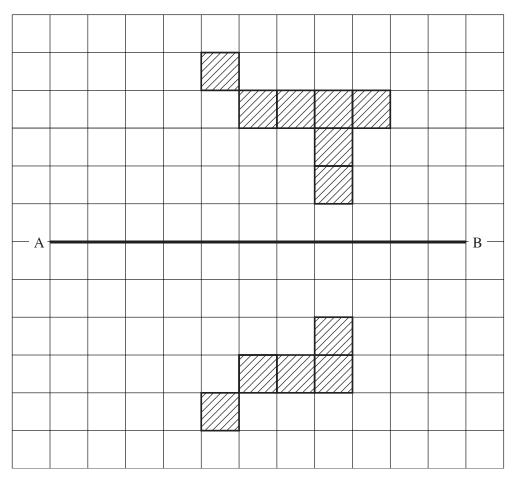
Answer _____ °F [1]

(ii) 55°F to °C

Answer ______°C [1]

7 **(a)** Shade **two** squares on the diagram below so that AB is a line of symmetry.

Examiner Only	
Marks	Remark



[2]

 $\mathbf{M} \mathbf{A} \mathbf{T} \mathbf{H} \mathbf{S}$

From the letters in the word above, choose

- (i) a letter with no lines of symmetry. Answer _____ [1]
- (ii) a letter with rotational symmetry of order 2. Answer [1]
- **(c)** The complete word below has one horizontal line of symmetry as shown.

Write down another **three letter word** which has one horizontal line of symmetry.

Answer _____ [1]

Find the area of this trapezium.

Give your answer to an appropriate degree of accuracy.

Answer _____ cm² [3]

9 (a) Calculate the amount of an investment of £7200 at 4.5% simple interest per year after 2 years.

Answer £ _____ [3]

(b) A car costs 1.5 million yen in Japan.

If one euro = 135.457 yen, calculate the cost of the same car in euro.

Give your answer to the nearest euro.

Answer _____ euro [3]

10 The table below shows some of the probabilities of getting a colour on a spinner with four colours.

Examiner Only	
Marks	Remark

Colour	Red	Blue	Green	Black
Probability	0.3	0.5	0.14	

Calculate the probability of getting

(a) Black,

Answer	[:	2
	13	

(b) Green or Blue.

Answer	[2]
Answer	

11 Using ruler and compasses only, construct the perpendicular bisector of the line PQ.

Show your construction lines.



[2]

12	The angles in a triangle are in the ratio of 4:5:6		Examine Marks	r Only Remark
	Work out the sum of the two smaller angles.			
	Answer	° [3]		
	THIS IS THE END OF THE QUESTION PAPER	_		
		-		







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