



General Certificate of Secondary Education  
2024

Centre Number

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Candidate Number

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# Mathematics

Unit M5 Paper 2  
(With calculator)  
Foundation Tier



[GMC52]

\*GMC52\*

**MONDAY 3 JUNE, 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. **You must answer the questions in the spaces provided.**

**Do not write outside the boxed area on each page, on blank pages or tracing paper.**

Complete in black ink only. **Do not write with a gel pen.**

Answer **all fifteen** questions.

All working should be clearly shown in the spaces provided. Marks may be awarded for partially correct solutions.

You **may** use a calculator for this paper.

## INFORMATION FOR CANDIDATES

The total mark for this paper is 50.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

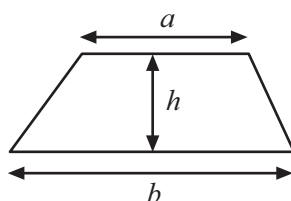
You should have a calculator, ruler, compasses and a protractor.

The Formula Sheet is on page 2.

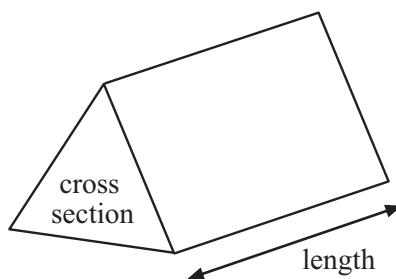


# Formula Sheet

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



$$\text{Volume of prism} = \text{area of cross section} \times \text{length}$$



1 (a) In a school there are 40 teachers and 600 pupils.

$\frac{1}{5}$  of the teachers are left-handed.

$\frac{1}{3}$  of the pupils are left-handed.

How many left-handed teachers and pupils are there altogether?

Answer \_\_\_\_\_ [3]

(b) One third of a number is 16

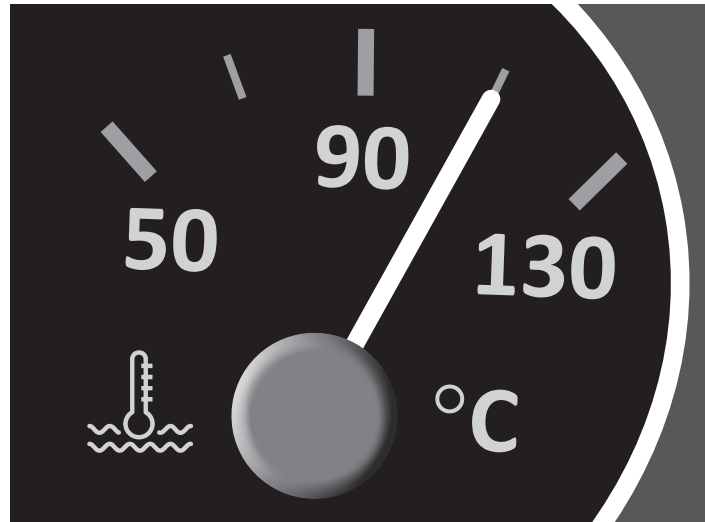
What is  $\frac{1}{4}$  of the number?

Answer \_\_\_\_\_ [2]

[Turn over



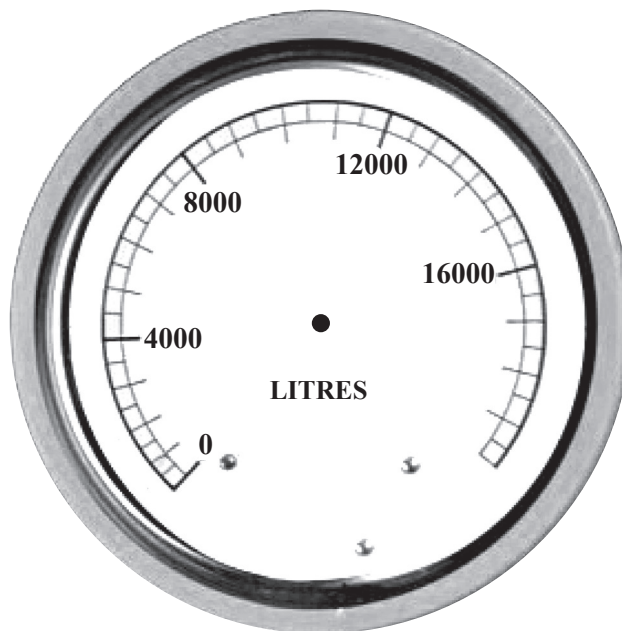
2 (a)



What temperature is the oil on the gauge above?

Answer \_\_\_\_\_ °C [1]

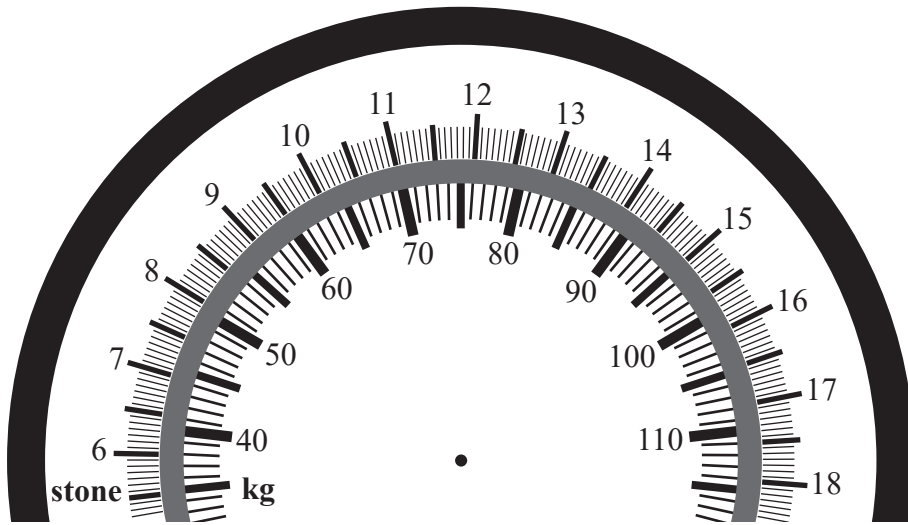
(b) Draw an arrow to show a reading of 9500 litres on the gauge below.



[1]



(c) Use the diagram below to decide how many kilograms (kg) there are in  $11\frac{1}{2}$  stone.



Answer \_\_\_\_\_ kg [1]



3 Choose words from below to complete the sentences that follow.

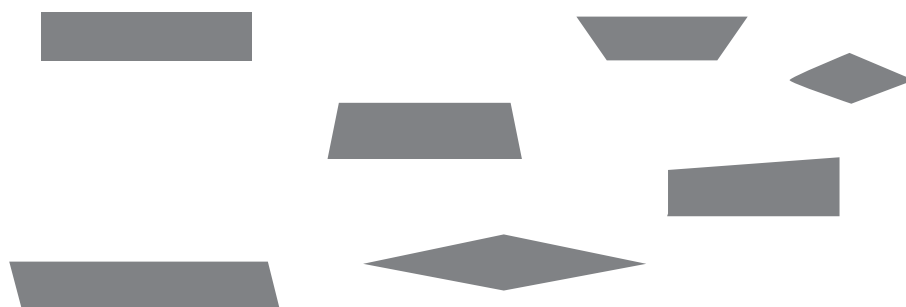
certain	unlikely	fair
even	impossible	likely

(a) An unbiased dice is \_\_\_\_\_ . [1]

(b) Most days, Tom's train is on time.

It is \_\_\_\_\_ that Tom's train will be on time tomorrow. [1]

(c) A shape is chosen at random from the shapes below.

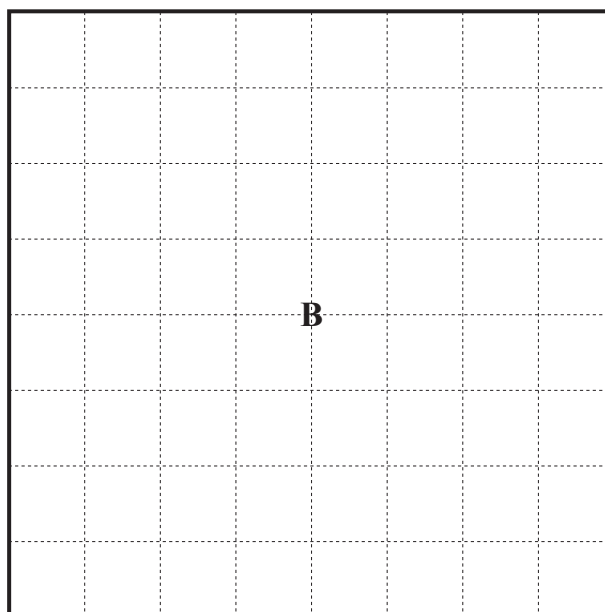
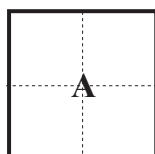


It is \_\_\_\_\_ that the shape chosen is a quadrilateral. [1]



4 (a) Square A has been enlarged to Square B.

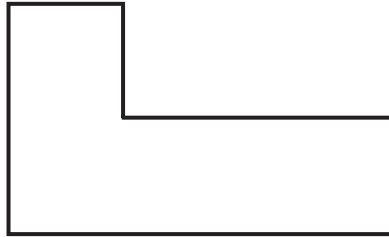
What is the scale factor of the enlargement?



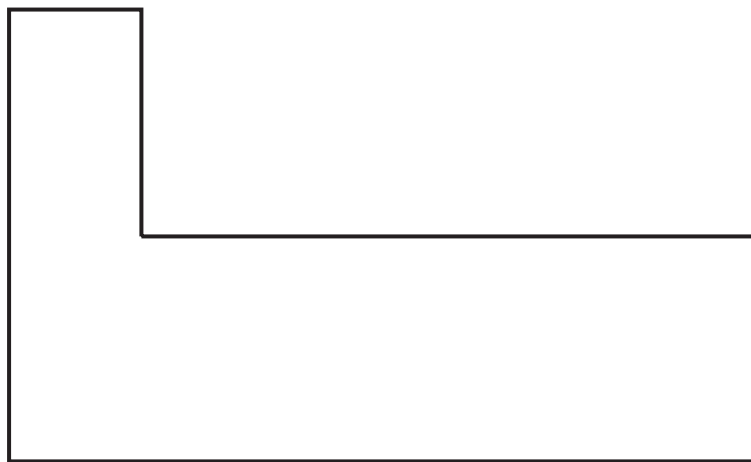
Answer \_\_\_\_\_ [1]



(b) Sammy enlarges the shape below.



This is Sammy's enlargement.



Which statement is correct?

- A Sammy's enlargement is correct.
- B We can't tell if Sammy's enlargement is correct as we don't know the scale factor used.
- C Sammy's enlargement is incorrect.

Answer \_\_\_\_\_ [1]





5 Morgan wants to have a heavy package delivered 28 miles.

She has two options.

**Deliver it there**  
£35 for up to 20 miles, and £2.50 per extra mile

**Ready to go local**  
£42.50, plus £9.50 for distances between 25 miles and 40 miles

Which is the cheaper option and by how much?

Answer \_\_\_\_\_ is cheaper by £ \_\_\_\_\_ [4]

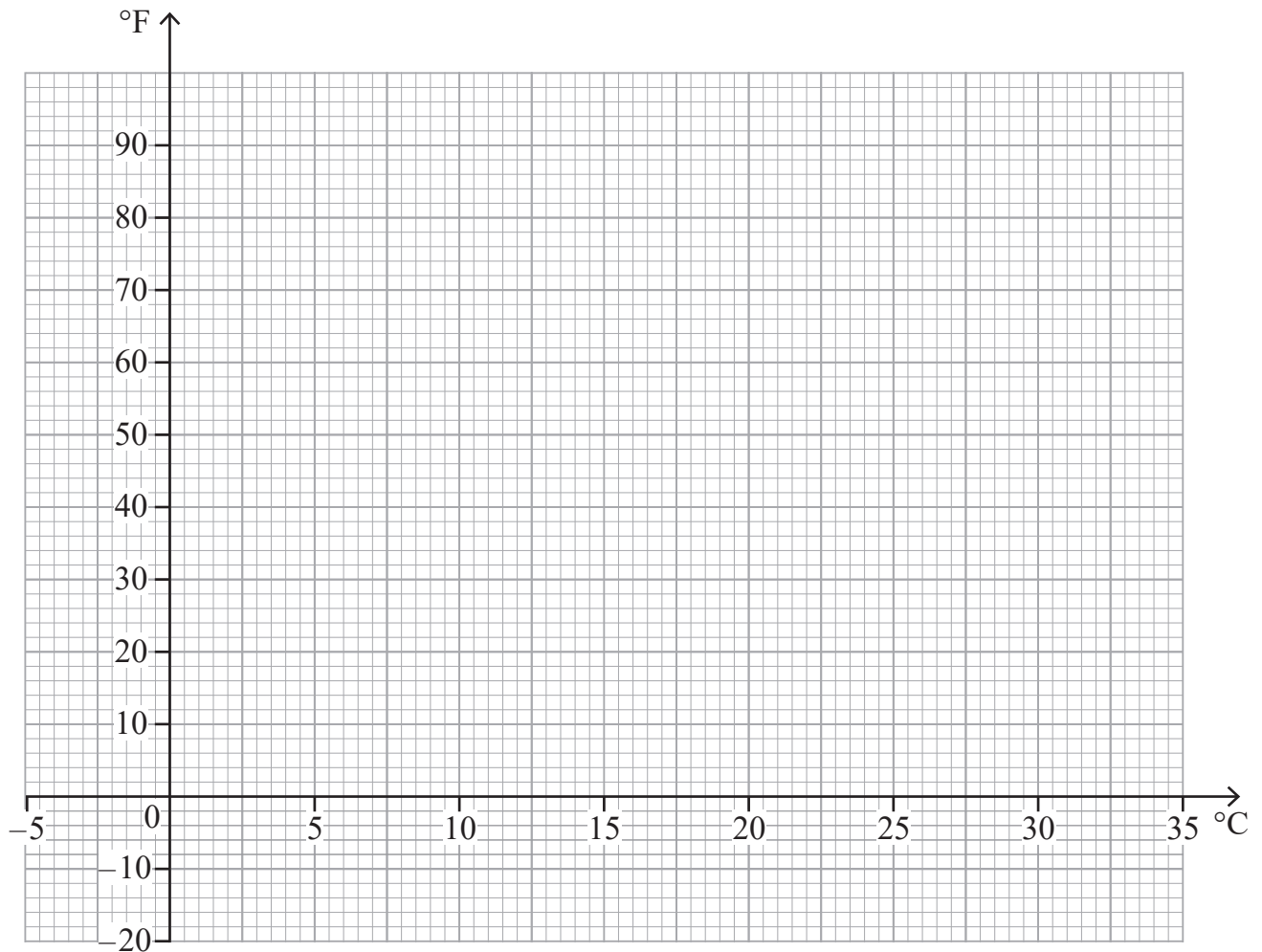
[Turn over



6 (a)

°C	-5	5	15	25	35
°F	23	41	59	77	95

Use the table to draw the conversion graph from °C (centigrade) to °F (Fahrenheit) on the grid below. [3]



(b) Use your graph to convert 22 °C to °F.

Answer \_\_\_\_\_ °F [1]

(c) Use your graph to convert 27 °F to °C.

Answer \_\_\_\_\_ °C [1]



7 Each new number in a sequence is found using the rule

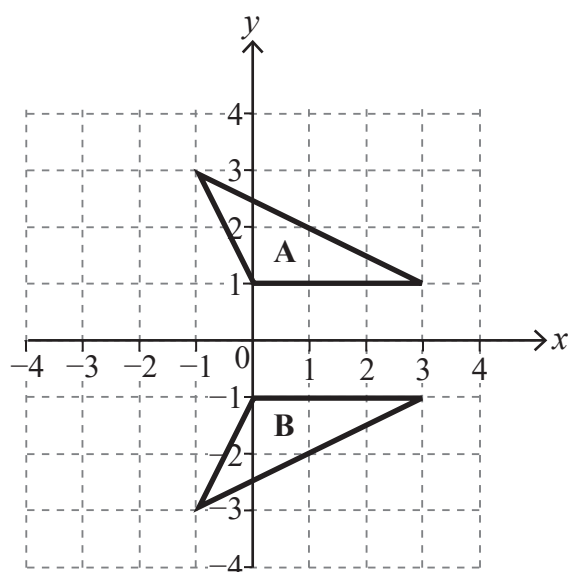
**divide by 3 and then subtract 5**

Find the next two numbers in this sequence.

24, \_\_\_\_\_, \_\_\_\_\_

[2]

8 Describe fully the **single** transformation that takes triangle A to triangle B.



Answer \_\_\_\_\_ [2]

[Turn over





Source: © Getty Images

Pete is filling 5-litre petrol cans from a large tank of petrol.

The tank contains 16 gallons.

Pete knows that 1 gallon = 4.5 litres.

How many 5-litre cans does he need to empty the tank?

Answer \_\_\_\_\_ cans [2]



10 Jack ran 4 km each day during the month of June.

He thinks he has run the length of 3 marathons.

A marathon is 26.2 miles long.

Is he right?

Explain your answer.

Answer \_\_\_\_\_ because \_\_\_\_\_

\_\_\_\_\_ [4]

[Turn over



11 The heights (in cm) of students in a Year 1 class are recorded in the table below.

	$90 \leq h < 95$	$95 \leq h < 100$	$100 \leq h < 110$
Girl	6	5	2
Boy	4	7	6

A student is taken at random from the class.

(a) Giving your answer as a fraction, what is the probability of taking

(i) a girl with height  $100 \leq h < 110$ ,

Answer \_\_\_\_\_ [1]

(ii) a boy,

Answer \_\_\_\_\_ [1]

(iii) a student with height  $90 \leq h < 95$ ,

Answer \_\_\_\_\_ [1]

(iv) a girl with height  $90 \leq h < 100$ ?

Answer \_\_\_\_\_ [1]



(b) An event is held for Year 1 students.

600 Year 1 students attend.

Estimate how many of the students have height  $100 \leq h < 110$

Answer \_\_\_\_\_ [2]



12 The number of oysters collected by divers for a number of dives is recorded.

Name	Number of dives	Number of oysters collected
Diving Dan	16	84
Scuba Sam	11	33
Clammy Colin	24	102

Which diver is the best at collecting oysters?

Show your working clearly.

Answer \_\_\_\_\_

because \_\_\_\_\_ [2]





13 Work out the value of  $x$  in the pentagon below.

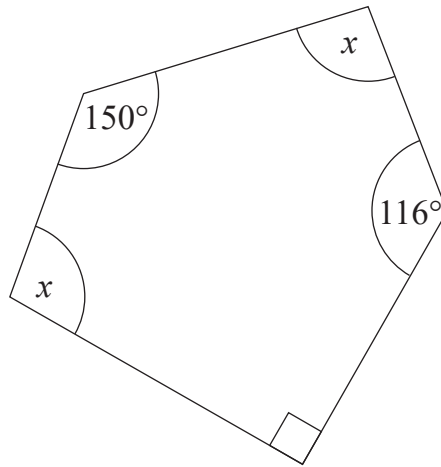


diagram not  
drawn  
accurately

Answer  $x =$  \_\_\_\_\_  $^\circ$  [4]



14 In a local election the following figures were recorded at three polling stations.

Station	Number who voted	Number registered to vote
A	645	1270
B	860	1548
C	1450	3015

Of the total number of those registered to vote, what percentage voted?

Answer \_\_\_\_\_ % [3]



15 Tammy makes cordial using fruit juice and sparkling water in the ratio 1:3

Tammy has 800 ml of fruit juice and 2100 ml of sparkling water.

What is the greatest amount of cordial she can make?

Answer \_\_\_\_\_ ml [3]

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**THIS IS THE END OF THE QUESTION PAPER**

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For Examiner's use only	
Question Number	Marks
1	
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<b>Total Marks</b>	
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Examiner Number

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