



General Certificate of Secondary Education

Centre Number

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Candidate Number

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# Mathematics

Unit M5 Paper 1  
(Non-Calculator)  
Foundation Tier



[GMC51]  
Assessment

\*GMC51\*

**TIME**

1 hour.

**Assessment Level of Control:**

Tick the relevant box (✓)

Controlled Conditions	
Other	

**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 fourteen** questions.

All working should be clearly shown in the spaces provided. 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 50.

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

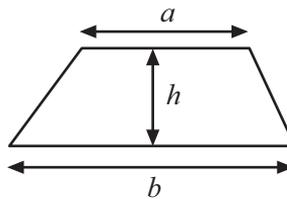
You should have a ruler, compasses and a protractor.

The Formula Sheet is on page 2.

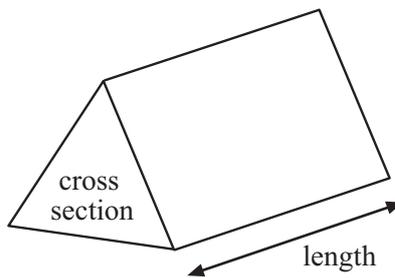


# Formula Sheet

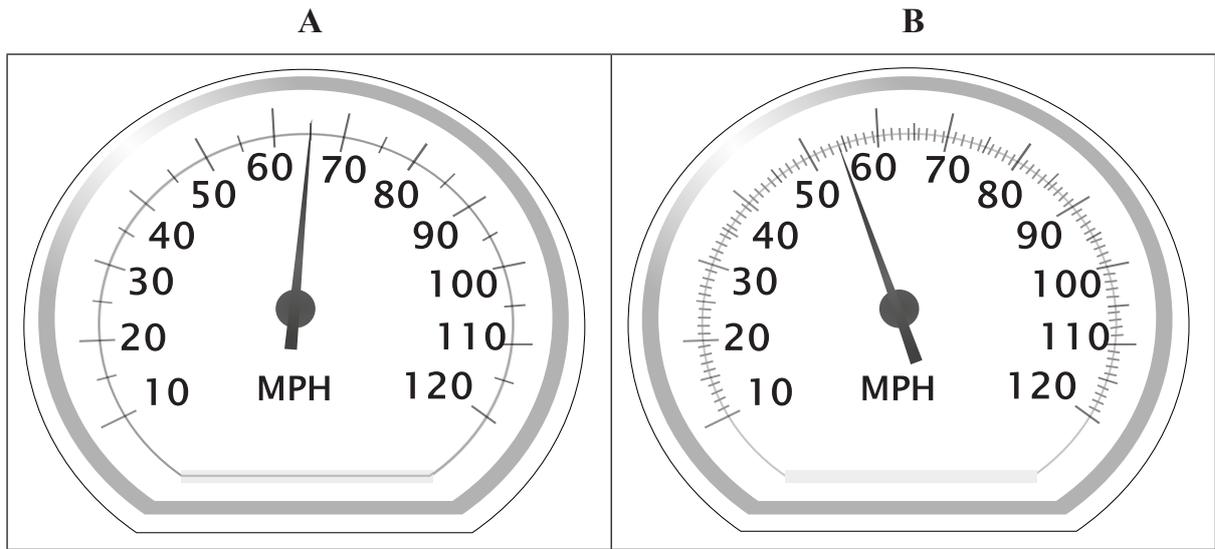
$$\text{Area of trapezium} = \frac{1}{2}(a + b)h$$



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



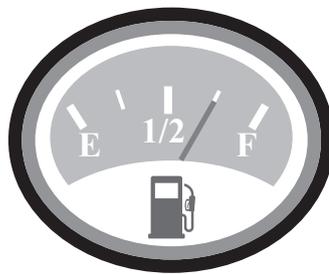
1 (a) The diagrams show two car speedometers, A and B.



What speed does each show?

Answer A \_\_\_\_\_ mph      B \_\_\_\_\_ mph [2]

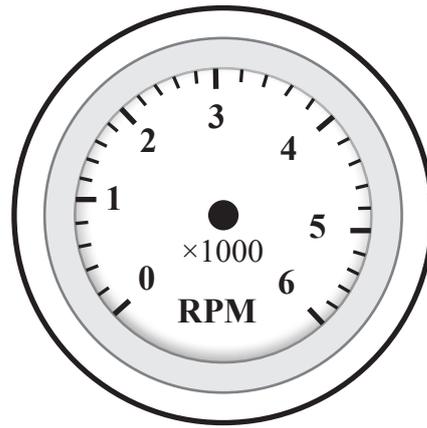
(b) What reading is shown on the fuel gauge?



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



(c) Use an arrow to show 4200 rpm on the diagram below.



[1]



2 (a) Liam writes a letter that is 28 lines long.

Each line has 12 words on average.

**Estimate** how many words there are in the letter.

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

(b) A book contains 8356 words.

The book is 17 pages long.

Kate is **estimating** how many words there are on each page of the book.

Which **two** of the calculations below would be most appropriate for Kate to use?

Circle your answers.

$8000 \times 20$      $8000 \div 20$      $8356 \times 17$      $8356 \div 17$      $8400 \times 20$      $8400 \div 20$

[2]

[Turn over



3 Ben has 40 flags.

The table shows information about his flags.

Continent	Africa	Asia	Australia	Europe	North America	South America
Number of flags	10	5	2	20	0	3

(a) Ben takes a flag at random.

Circle the word that best describes the likelihood of these events.

(i) Ben's flag is from Africa.

impossible      unlikely      evens      likely      certain      [1]

(ii) Ben's flag is from Europe.

impossible      unlikely      evens      likely      certain      [1]

(iii) Ben's flag is from North America.

impossible      unlikely      evens      likely      certain      [1]

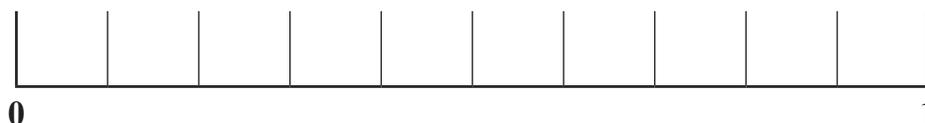


(b) Ben has five flags from Asia.

They are from Malaysia, Mongolia, Myanmar, Taiwan, and Vietnam.

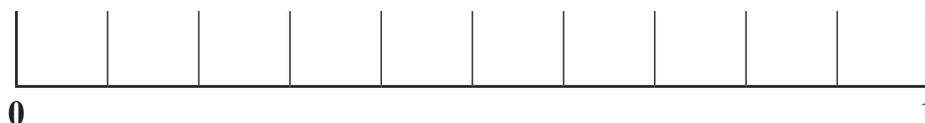
Ben takes one of these flags at random.

(i) Mark on the probability scale with a **V** the probability that the flag taken is Vietnam.



[1]

(ii) Mark on the probability scale with an **M** the probability that the flag taken is from a country beginning with the letter M.



[1]

[Turn over



4 (a) Circle the two units of capacity.

gallons      miles      pints      pounds      stones      yards      [1]

(b) Jack is 6 feet 3 inches tall.

Jill is 5 feet 8 inches tall.

1 foot = 12 inches.

How many inches taller is Jack than Jill?

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

5 Use  $5 \times 12 = 60$        $60 \div 5 = 12$       and       $12 \div 5 = 2.4$

to complete the following.

(a)   $\times 12 = 600$  [1]

(b)  $600 \div$    $= 120$  [1]

(c)  $12 \div 50 =$   [1]



6 A cinema has two screens.

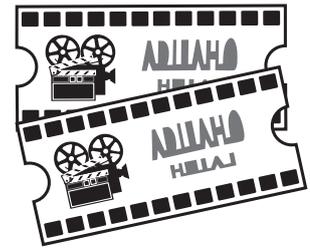
500 people go to this cinema on a Saturday evening.

$\frac{3}{5}$  of these people go to screen 1

40% of the people who go to screen 2 are children.

How many children go to screen 2?

**Show all your working.**



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

[Turn over



7 (a) Write in its simplest form the ratio 12 : 30

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

(b) (i) Mark and Dylan have a number of toy bricks  
in the ratio 3 : 2

What fraction of the bricks does Mark have?

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

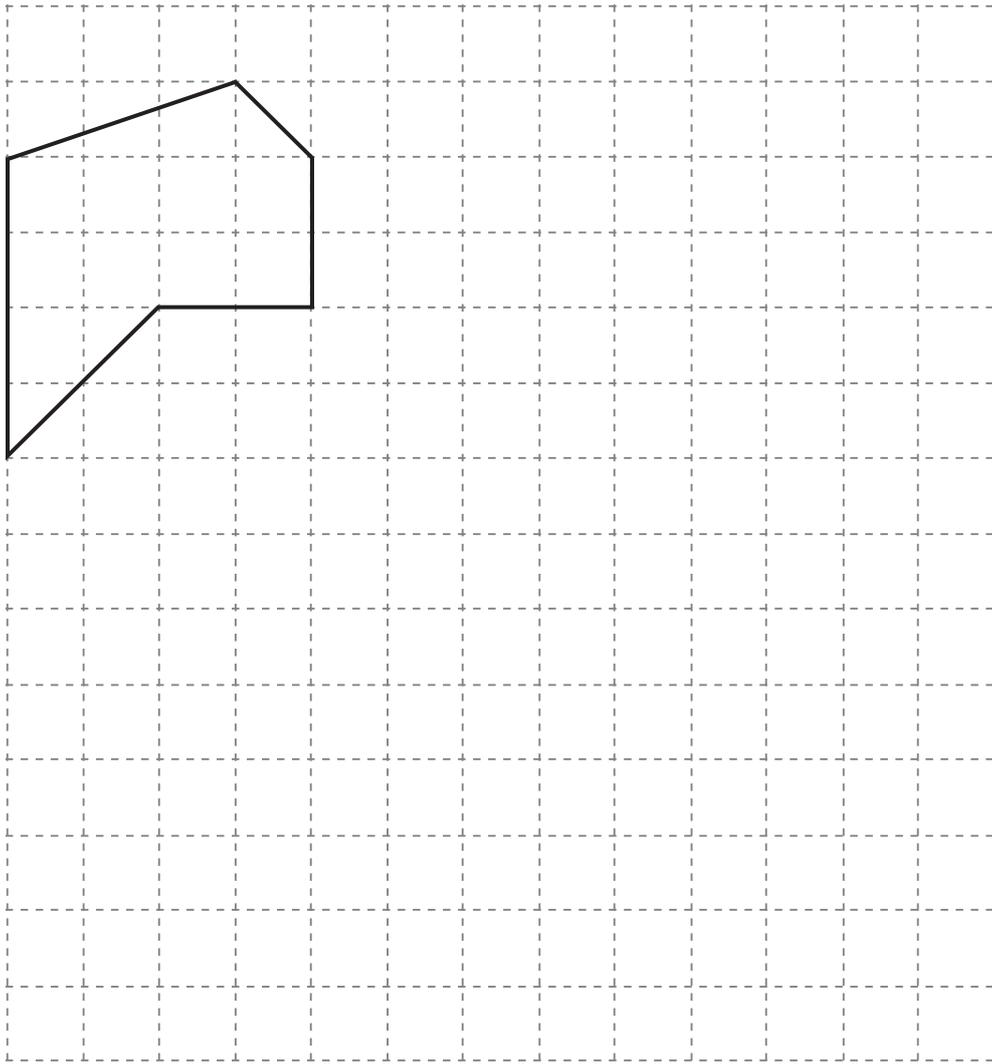
(ii) They have 35 bricks in total.

How many do they each have?

Answer Mark has \_\_\_\_\_, Dylan has \_\_\_\_\_ [2]



8 On the grid, enlarge the shape with a scale factor of 2



[2]

[Turn over



9 Which of the numbers below shows that the following statement is not true?

“If  $P$  is any odd number, then  $P + 2$  is always a prime number.”

Show all working before you tick the correct box.

$P = 1$

$P = 5$

$P = 3$

$P = 7$

[2]



10 In a Year 12 class, the following information was recorded.

	Boys	Girls
Wears glasses	3	5
Does not wear glasses	10	6

(a) What fraction of the pupils in the class wear glasses?

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

(b) A pupil was chosen at random from the class.

What is the probability that the pupil was a boy who does not wear glasses?

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

(c) The next week a new boy joins the class.

He wears glasses.

Will this change the probability of now choosing at random a girl who wears glasses?

**Explain your answer clearly.**

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

[Turn over

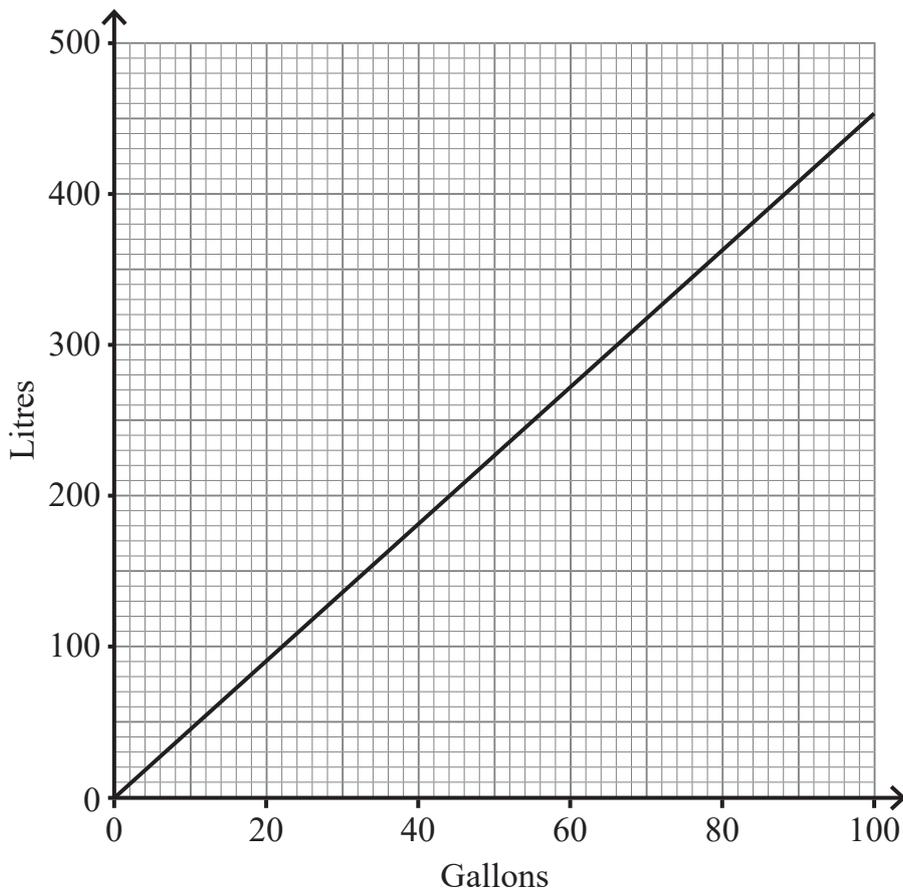


11 Change 20 miles/h to km/h.

Answer \_\_\_\_\_ km/h [2]



12 Use this conversion graph to answer the following.



(a) An oil drum holds 15 gallons of oil.

How many litres of oil is this?

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

(b) An oil tank holds 900 litres of oil.

How many gallons of oil is this?

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

(c) Complete this sentence.

A gallon is about \_\_\_\_\_ times greater than a litre.

[1]

[Turn over



13 “Look Dad,” said Erin.

“Here are all the silver coins from my piggy bank.”

“How much have you got?” said Dad.

“ $\frac{1}{3}$  are 5p coins,  $\frac{1}{4}$  are 10p coins and the other 10 coins are 50p coins,” said Erin.

What is Erin’s total amount of money?

**Show all working.**

Answer \_\_\_\_\_ [5]



14 ABCDE is a pentagon.

Lines AF and CG are straight lines.

Work out the value of  $x + y + z$

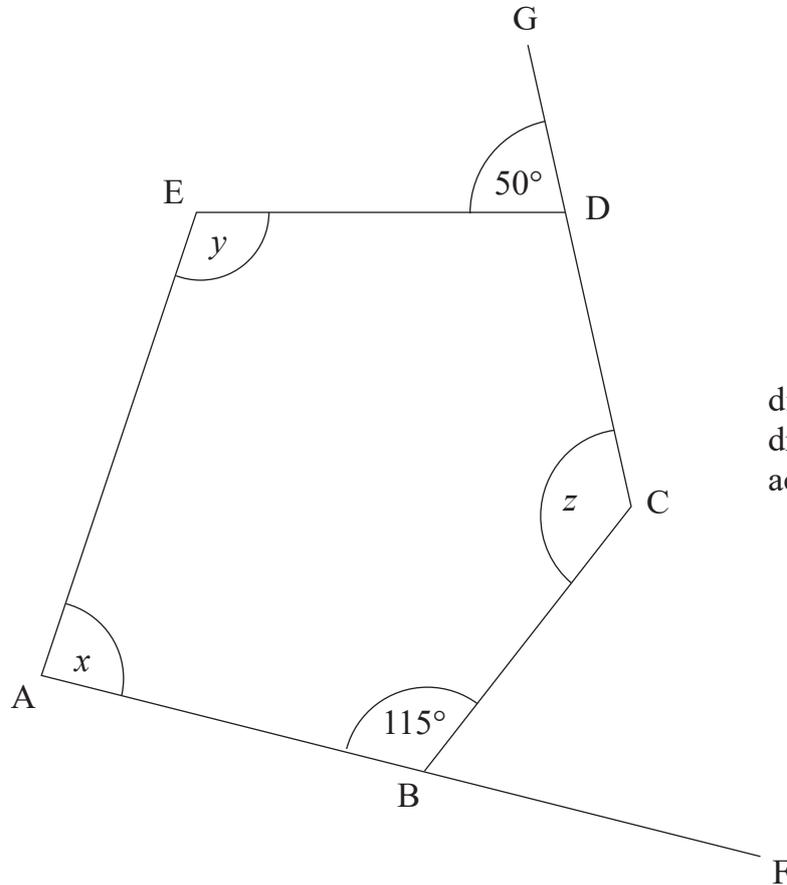


diagram not  
drawn  
accurately

Answer \_\_\_\_\_  $^\circ$  [5]

12372



\*20GMC5117\*

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For Examiner's use only	
Question Number	Marks
1	
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14	

<b>Total Marks</b>	
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Examiner Number

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