



General Certificate of Secondary Education
2025

Centre Number

--	--	--	--	--

Candidate Number

--	--	--	--	--

Mathematics

Unit M2
(With calculator)
Foundation Tier



[GMC21]

GMC21

THURSDAY 15 MAY, 9.15am – 11.00am

TIME

1 hour 45 minutes.

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 or on blank pages.

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

Questions which require drawing or sketching should be completed using an HB pencil. All working **must** be clearly shown in the spaces provided. Marks may be awarded for partially correct solutions.

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

Answer **all twenty-eight** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

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.

15853



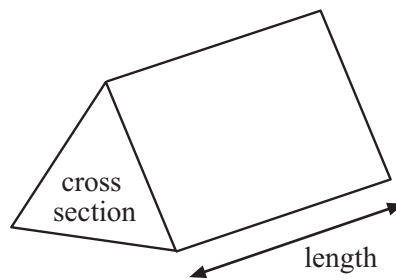
36GMC2101

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 Show that $8 + 4 \times 5$ does not equal $(8 + 4) \times 5$

[2]

[Turn over

15853



36GMC2103

2 (a) Hamilton ran around a race track in 43.812 seconds.

Round this time to 1 decimal place.

Answer _____ seconds [1]

(b) Write down the place value of the 4 in the number 7 654 321

Answer _____ [1]

(c) Write these numbers in order from largest to smallest.

0.605 0.6 0.61

Answer _____ [1]



3 (a) Sean has h hoodies.

Conor has 5 more hoodies than Sean.

Write down an expression, in terms of h , for the number of hoodies Conor has.

Answer _____ [1]

(b) Martha has the same number of hoodies as Sean and Conor have altogether.

Write down an expression, in terms of h , for the number of hoodies Martha has.

Give your answer in its **simplest** form.

Answer _____ [1]

[Turn over





Ticket Prices

Adult (17+)	£13.50
Child (4–16 years old)	£6.75
Child (under 4 years old)	Free
Student	£7.50
Senior	£5.45
Carer	Free
Family day ticket (up to 2 adults and 4 children)	£37.50

(a) A student, a senior and a carer visit the zoo.

How much do they pay altogether for their tickets?

Answer £ _____ [2]



(b) Mr and Mrs Foster and their four children aged 3, 7, 9 and 11 visit the zoo.

Mr Foster says they will save at least £10 if they buy a Family day ticket.

Do you agree with Mr Foster?

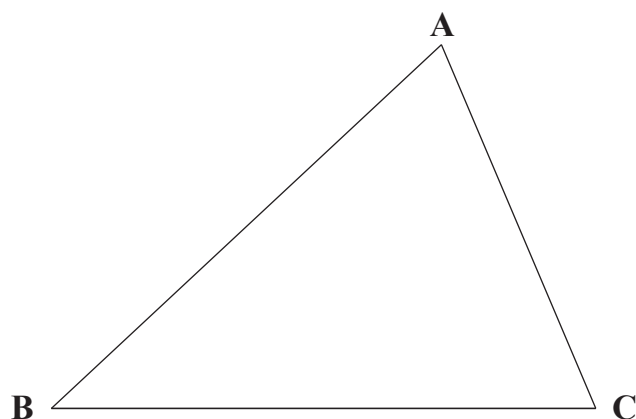
Show your working out clearly.

Answer _____ [3]

[Turn over



5 A triangle ABC is drawn below.



(a) Using a protractor, measure the size of the angle at C.

Answer _____ ° [1]

(b) (i) Using a ruler, measure the length of the line BC in **centimetres**.

Answer _____ cm [1]

(ii) Write your answer to part (b) (i) in **millimetres**.

Answer _____ mm [1]



(c) Sam measured the angle at B as 137°

(i) Without measuring the angle, explain why Sam must be wrong.

[1]

(ii) Now measure the angle.

What mistake did Sam make when he measured the angle?

[1]

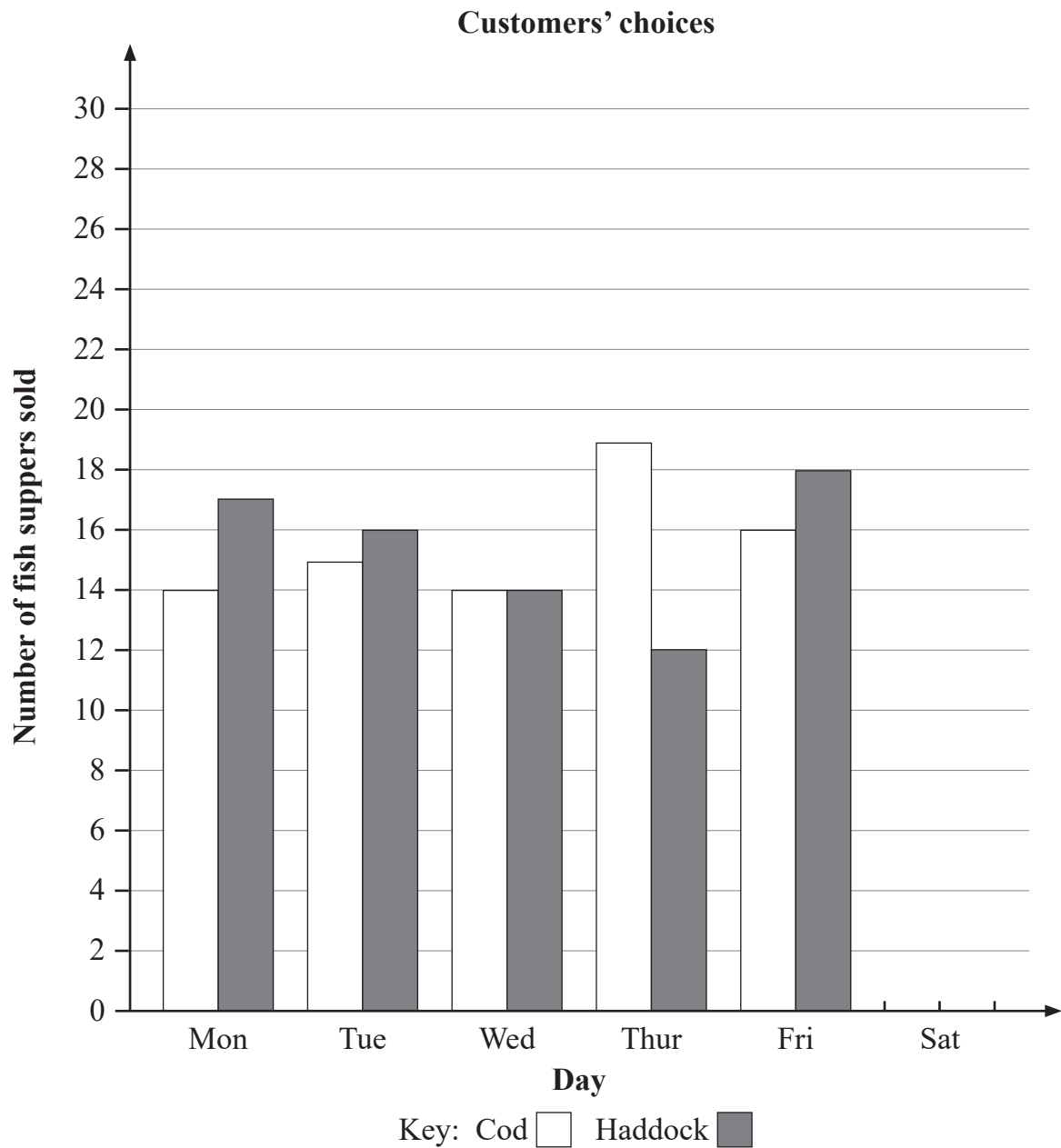


6 A local chippy sells fish suppers.

Customers can choose whether to have cod or haddock in their fish supper.

Each day for a week, the owner recorded the customers' choices.

The results are displayed in this dual bar chart.



(a) On which day, from Monday to Friday, were most fish suppers sold?

Answer _____ [1]

(b) The owner thinks that, from Monday to Friday, he sold more haddock than cod.
Is he correct? Explain your answer clearly.

Answer _____ because _____
_____ [2]

(c) On Saturday, 27 cod suppers were sold.

Overall, from Monday to Saturday, the same number of cod suppers and haddock suppers were sold.

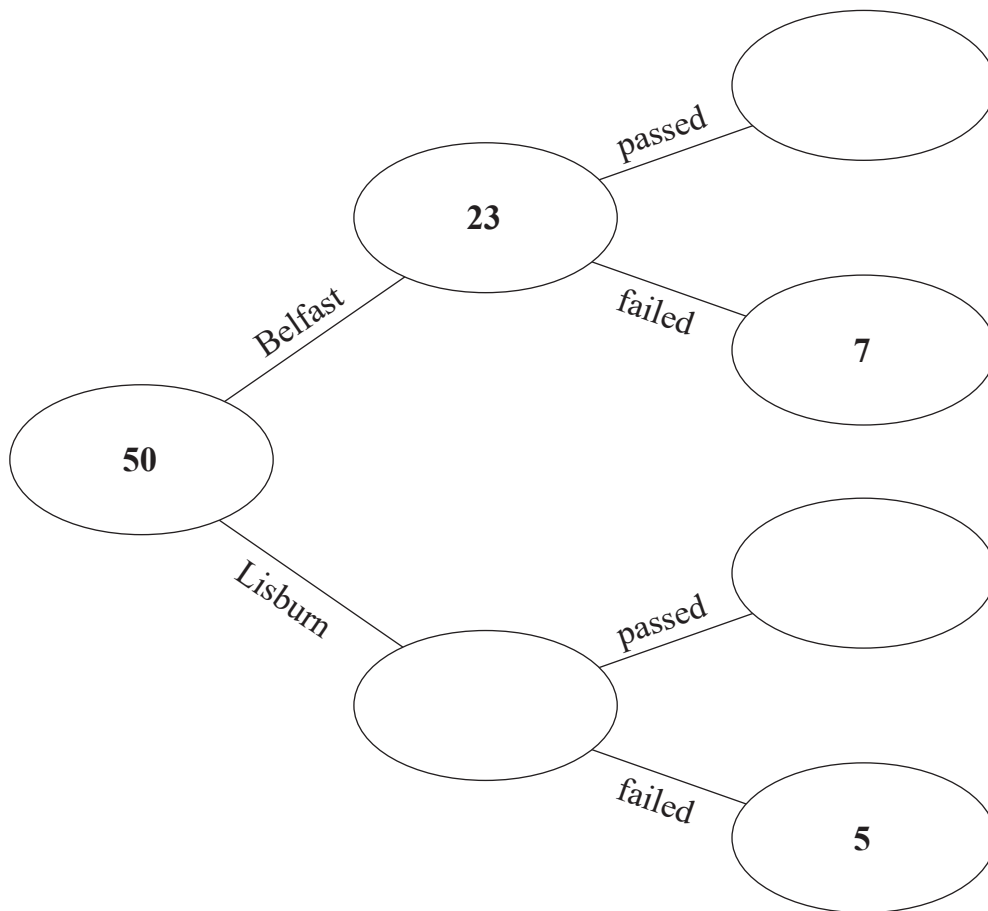
Complete the bar chart. [2]

[Turn over



7 50 people booked an MOT test in either Belfast or Lisburn.

Some of the results are shown in the frequency tree below.

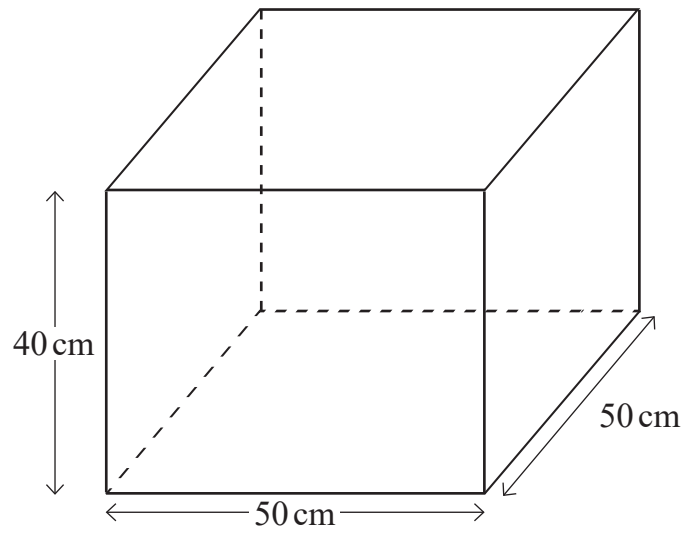


How many MOT tests were passed in Lisburn?

Answer _____ [2]



8 A container, in the shape of a cuboid, has dimensions as shown in the diagram.



(a) What is the **volume** of the container?

Answer _____ cm^3 [2]

(b) 60 litres of liquid are poured into the container.

How deep will the liquid be?

Answer _____ cm [3]

[Turn over



9 Engine oil costs £14.80 per litre.

Jason buys 6.5 litres of engine oil.

He also buys 5 identical spark plugs.

The total cost is £113

How much does each spark plug cost?

Answer £ _____ [3]



10 At the start of the year, Sue's caravan was worth £9 600

By the end of the year, Sue's caravan had lost 26% of its value.

At the start of the year, John's caravan was worth £9 975

By the end of the year, John's caravan had lost $\frac{2}{7}$ of its value.

Whose caravan was worth more by the end of the year and by how much more?

Answer _____ by £ _____ [5]

[Turn over

15853



36GMC2115

11 (a) Simplify $4c + 5d + c - 7d$

Answer _____ [2]

(b) Expand $5(2t + 5)$

Answer _____ [1]



12

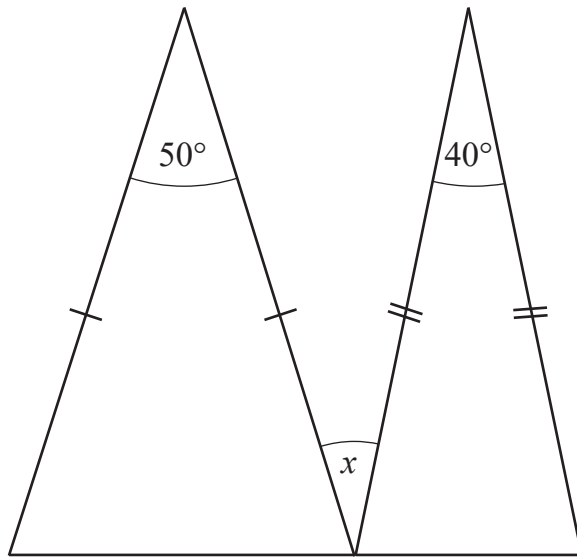


diagram not drawn accurately

Calculate the size of the angle marked x

Answer _____ $^\circ$ [3]

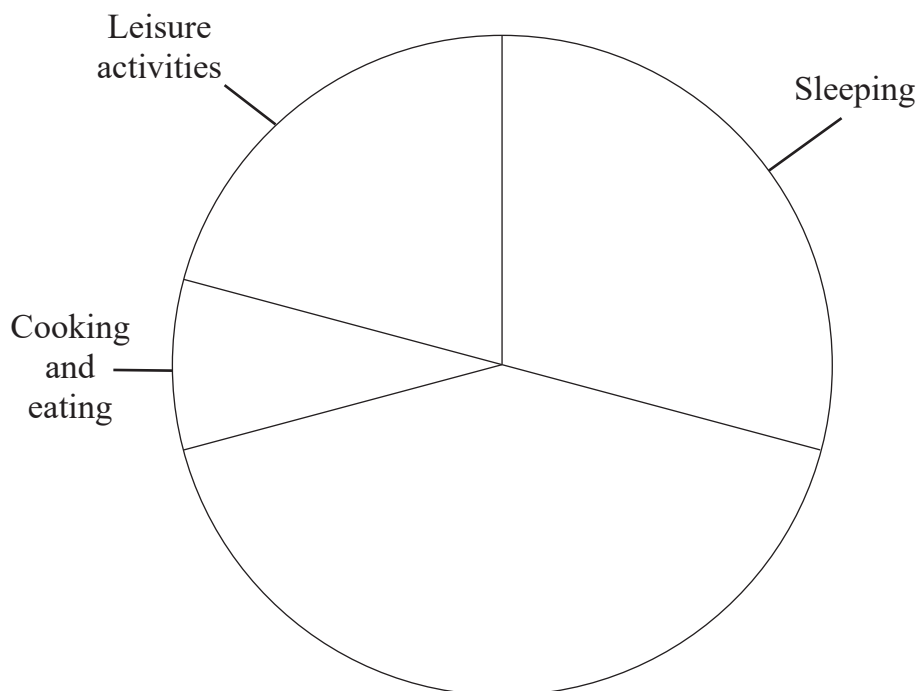
[Turn over



- 13 Philip wanted to draw a pie chart to display the results of a study on how adults spend their time each day.

He used the information in the table to start drawing the pie chart.

Activity	No. of hours	Angle
Sleeping	7	105°
Leisure activities	5	75°
Cooking and eating	2	30°
Working	9	
Housework	1	
Total	24	360°



(a) Complete the table. [2]

(b) Complete the pie chart. [2]

(c) Philip says, "The angle for leisure activities is 75° . This means adults spend 75% of their time on leisure activities."

Is Philip correct? Explain your answer clearly.

[2]

14 What is the difference in size between the largest and smallest of these numbers?

2 $2\frac{1}{2}$ 0.02 $\frac{2}{10}$

Show your working out clearly.

Answer _____ [3]

[Turn over



15 Last season 103 750 people watched the Belfast Giants.

This season 8300 more people watched.

What was the percentage increase?

Answer _____ % [2]



16 A charity holds a collection day.

During the collection day, 200 notes are donated to the charity.

25% of the notes are £10 notes.

$\frac{3}{5}$ of the notes are £5 notes.

There are eighteen £20 notes.

The rest of the notes are £50 notes.

What is the total value of all the notes donated?

Show your working out clearly.

Answer _____ [4]

[Turn over

15853



36GMC2121

17 A school has 540 pupils.

45% of the pupils live 2 miles or less from the school.

$\frac{2}{3}$ of the pupils who live more than 2 miles from the school travel by bus.

How many pupils who live more than 2 miles from the school travel by bus?

Answer _____ [3]



18 A pencil cost x pence.

Bernie bought 3 pencils.

Bernie paid with a £2 coin.

Write an expression, in terms of x , for her change in **pence**.

Answer _____ [2]

19 Solve $3(y - 7) = 18$

Answer $y =$ _____ [3]

[Turn over



- 20 Mia asked each person in her class how many devices they owned that could connect to the internet.

She recorded the results as follows.

3	2	2	1	4
1	1	3	4	2
2	2	3	3	2
4	3	1	2	2

- (a) Complete the frequency table below.

Number of devices	Number of pupils (frequency)	Total number of devices
1		
2		
3		
4		

[2]

- (b) Calculate the mean number of devices per pupil.

Answer _____ [2]

- (c) What was the range of the number of devices?

Answer _____ [1]





BLANK PAGE
DO NOT WRITE ON THIS PAGE
(Questions continue overleaf)

[Turn over

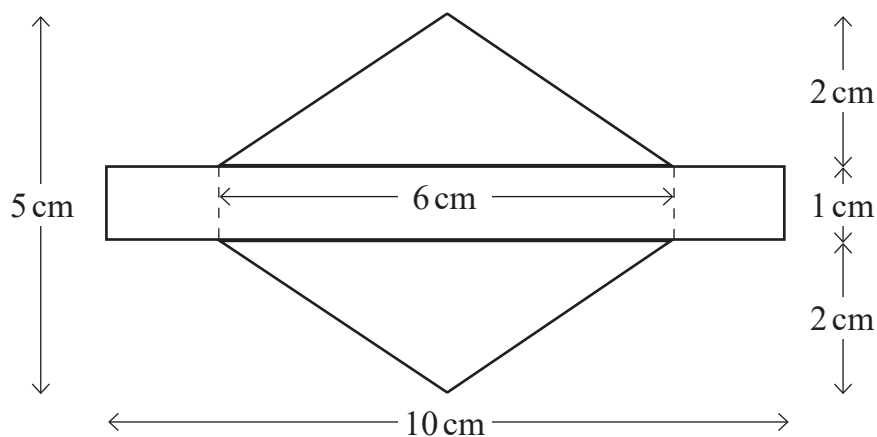
15853



36GMC2125

- 21 A badge is in the shape of two identical triangles and a rectangle, as shown in the diagram.

diagram not drawn accurately



The badges are cut from a square sheet of metal, of side 1 metre, in rows as shown.

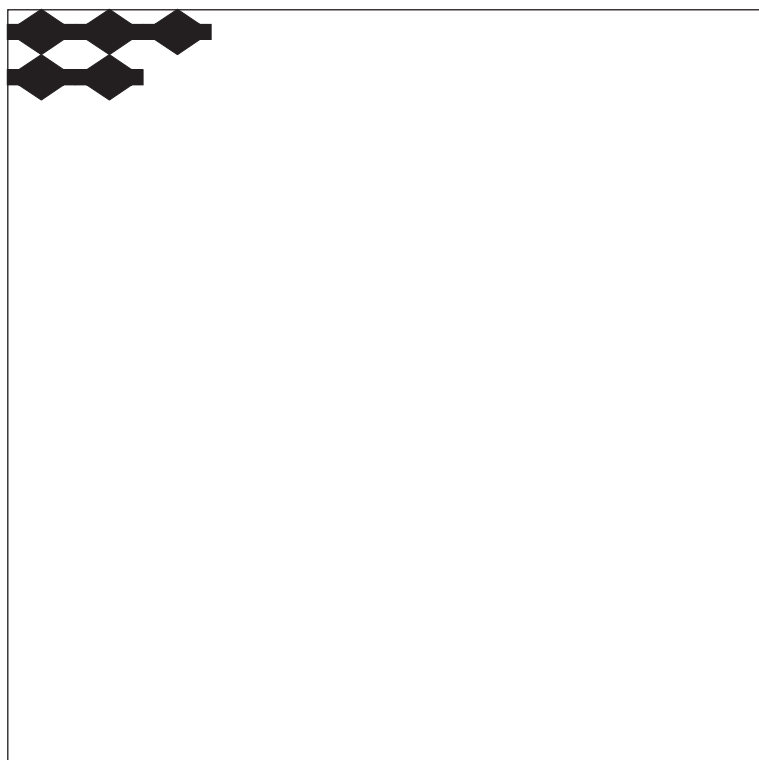


diagram
not drawn
accurately



What is the total **area** of the metal left over after the **maximum** number of badges have been cut from the sheet in rows as shown?

Answer _____ cm^2 [6]

[Turn over

15853



36GMC2127

22 Find the highest common factor (HCF) of 28 and 42

Answer _____ [3]



23 ABCD is a square of side 60 cm.

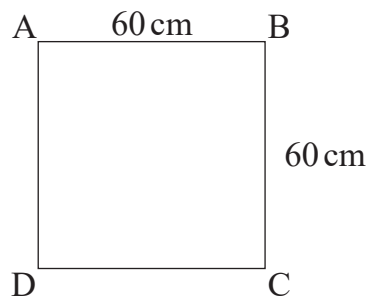


diagram not drawn accurately

The lengths of AB and DC are **increased** by 15% and the lengths of BC and AD are **decreased** by 20% to form a rectangle.

State whether the **perimeter** has increased or decreased, and by what percentage.

Answer Perimeter has _____ by _____ % [6]

[Turn over



24 Calculate the midpoint of the line joining the points (0, 6) and (2, 14).

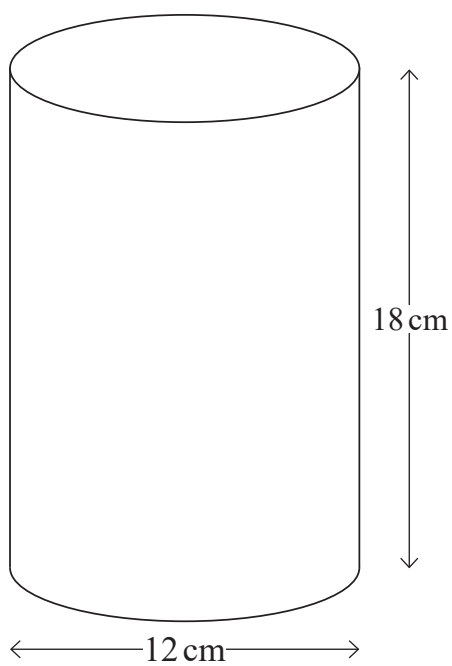
Answer (_____ , _____) [2]

25 Solve $\frac{4a - 2}{3} = 8$

Answer $a =$ _____ [3]



26 Calculate the volume of the cylinder.

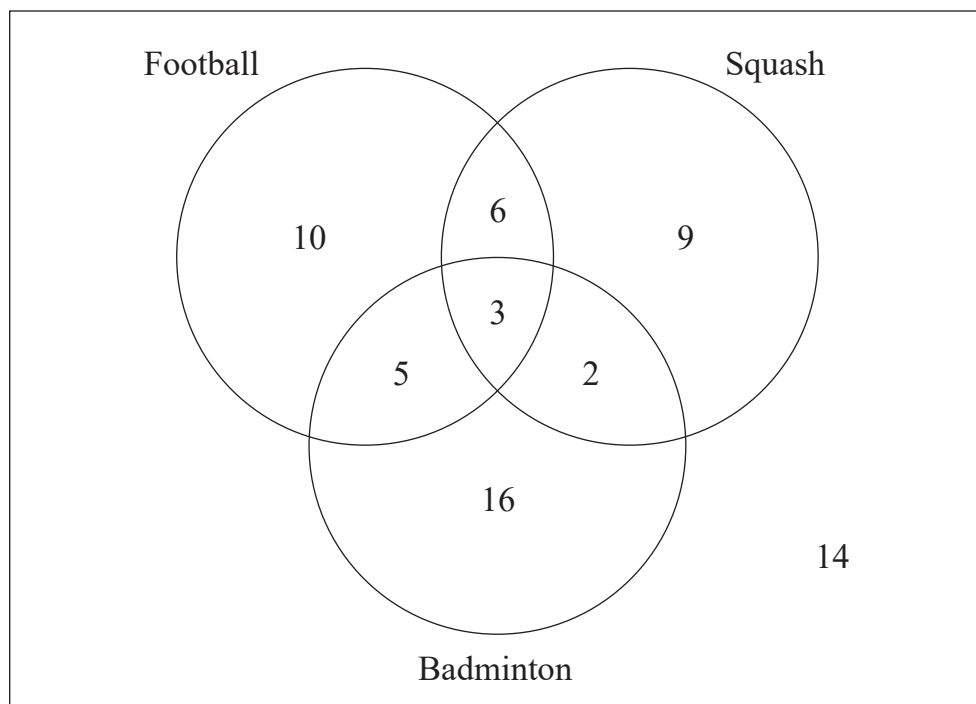


Answer _____ cm^3 [3]

[Turn over



27 The Venn diagram shows which sports members play at a leisure centre.



(a) How many members play Squash?

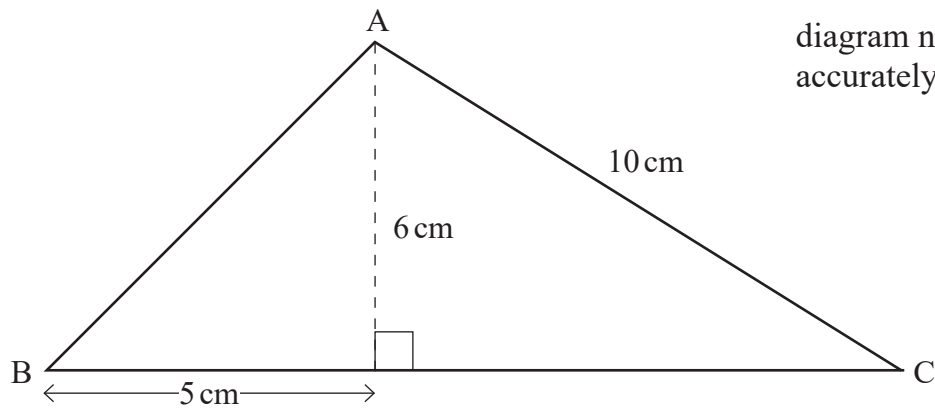
Answer _____ [1]

(b) How many members play both Football and Badminton?

Answer _____ [1]



28 Find the area of the triangle ABC.



Answer _____ cm^2 [4]

THIS IS THE END OF THE QUESTION PAPER



BLANK PAGE
DO NOT WRITE ON THIS PAGE

15853



36GMC2134





BLANK PAGE
DO NOT WRITE ON THIS PAGE

15853



36GMC2135

SOURCES:

All images © CCEA unless stated.

Question 4.....© Getty Images

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	

DO NOT WRITE ON THIS PAGE

Total Marks	
--------------------	--

Examiner Number

Permission to reproduce all copyright material has been applied for.
In some cases, efforts to contact copyright holders may have been unsuccessful and CCEA will be happy to rectify any omissions of acknowledgement in future if notified.

