



General Certificate of Secondary Education
November 2023

Centre Number

--	--	--	--	--

Candidate Number

--	--	--	--	--

Mathematics

Unit M5 Paper 2
(With calculator)

Foundation Tier

[GMC52]



GMC52

THURSDAY 23 NOVEMBER, 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 seventeen** 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.

14118



24GMC5201

Formula Sheet

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

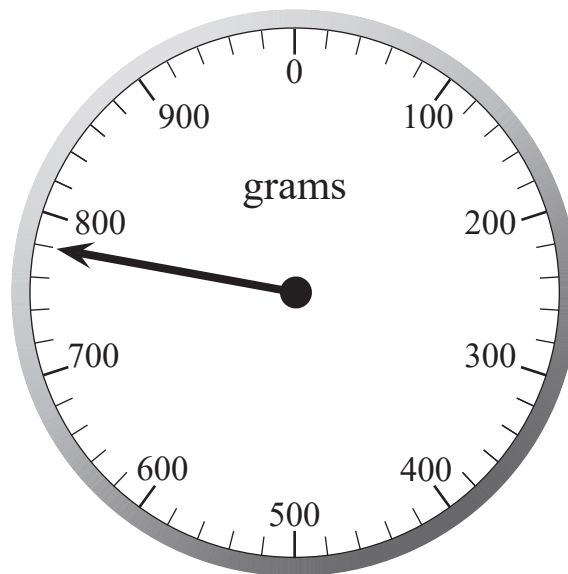


$$\text{Volume of prism} = \text{area of cross section} \times \text{length}$$



1 (a) Vicky places some apples on a scale.

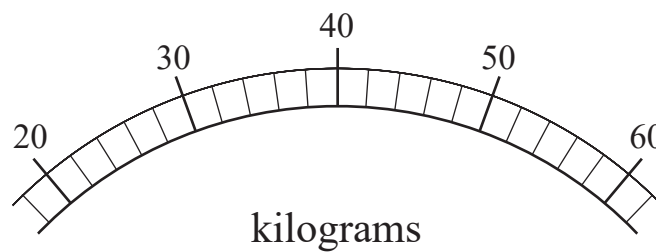
What is the reading shown on the scale?



Answer _____ grams [1]

(b) Chloe weighs 56 kilograms.

Draw an arrow on the scale to show how much Chloe weighs.



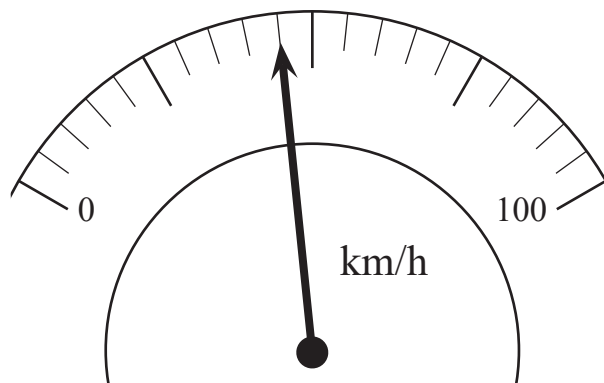
[1]

[Turn over



(c) Darren knows that the speed limit is 48 km/h.

His speedometer reads as shown.



Is Darren breaking the speed limit?

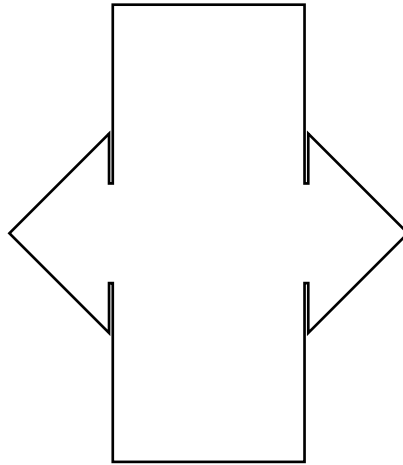
Explain your answer clearly.

Answer _____ because _____

[2]

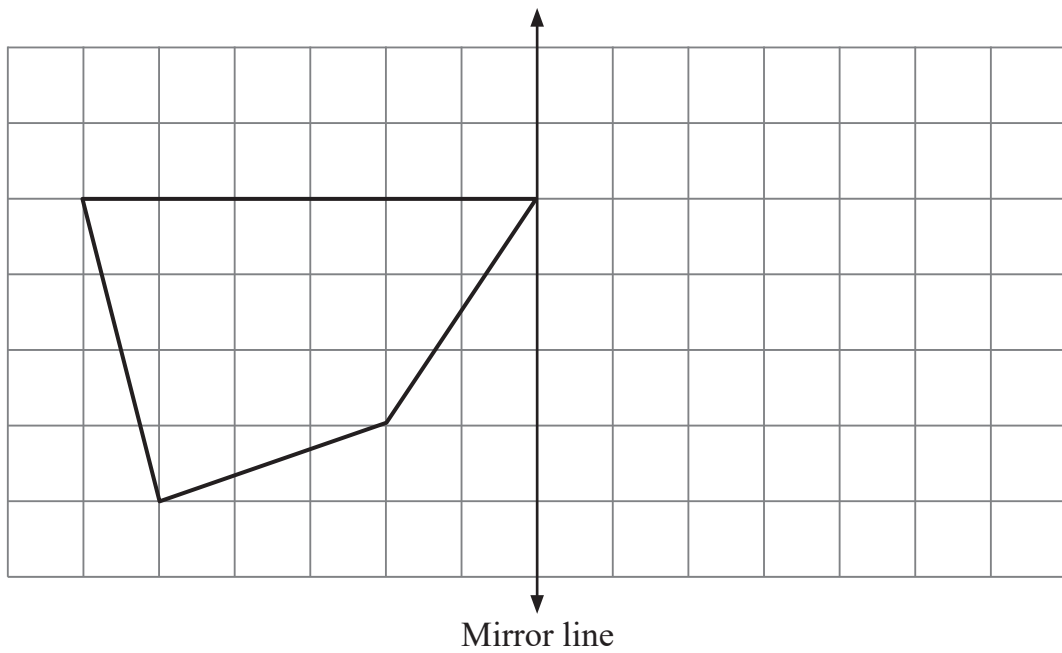


2 (a) Draw all the lines of symmetry on this shape.



[1]

(b) Reflect the given shape in the mirror line.



[2]

[Turn over



3 The names of 60 capital cities are put in a box.

The table shows information about their location.

Continent	Africa	Asia	Europe	South America
Number of capitals	13	5	30	12

Sarah takes one name at random from the box.

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

(a) Sarah takes a capital in Europe.

impossible unlikely evens likely certain [1]

(b) Sarah takes a capital in South America.

impossible unlikely evens likely certain [1]

(c) Sarah takes a capital **not** in Asia.

impossible unlikely evens likely certain [1]



4 Part of a sequence of numbers is shown.

3, 11, 19, 27, 35 ...

(a) What is the next number in the sequence?

Answer _____ [1]

(b) Linda says that 90 is a term in the sequence.

Explain why she is wrong.

Answer _____ [1]

[Turn over



5

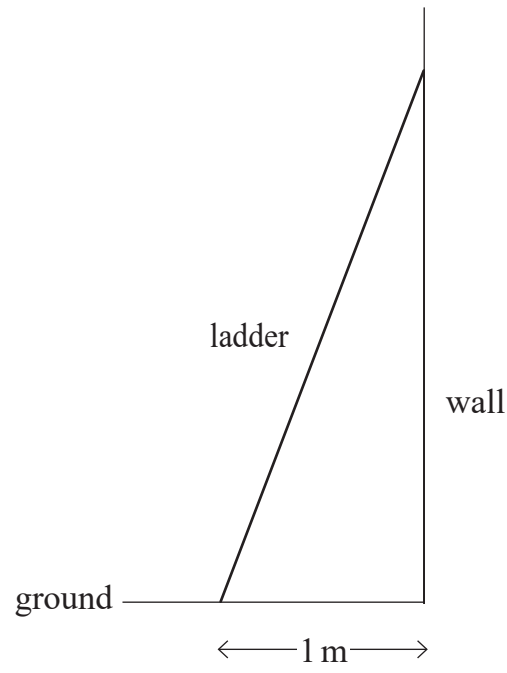


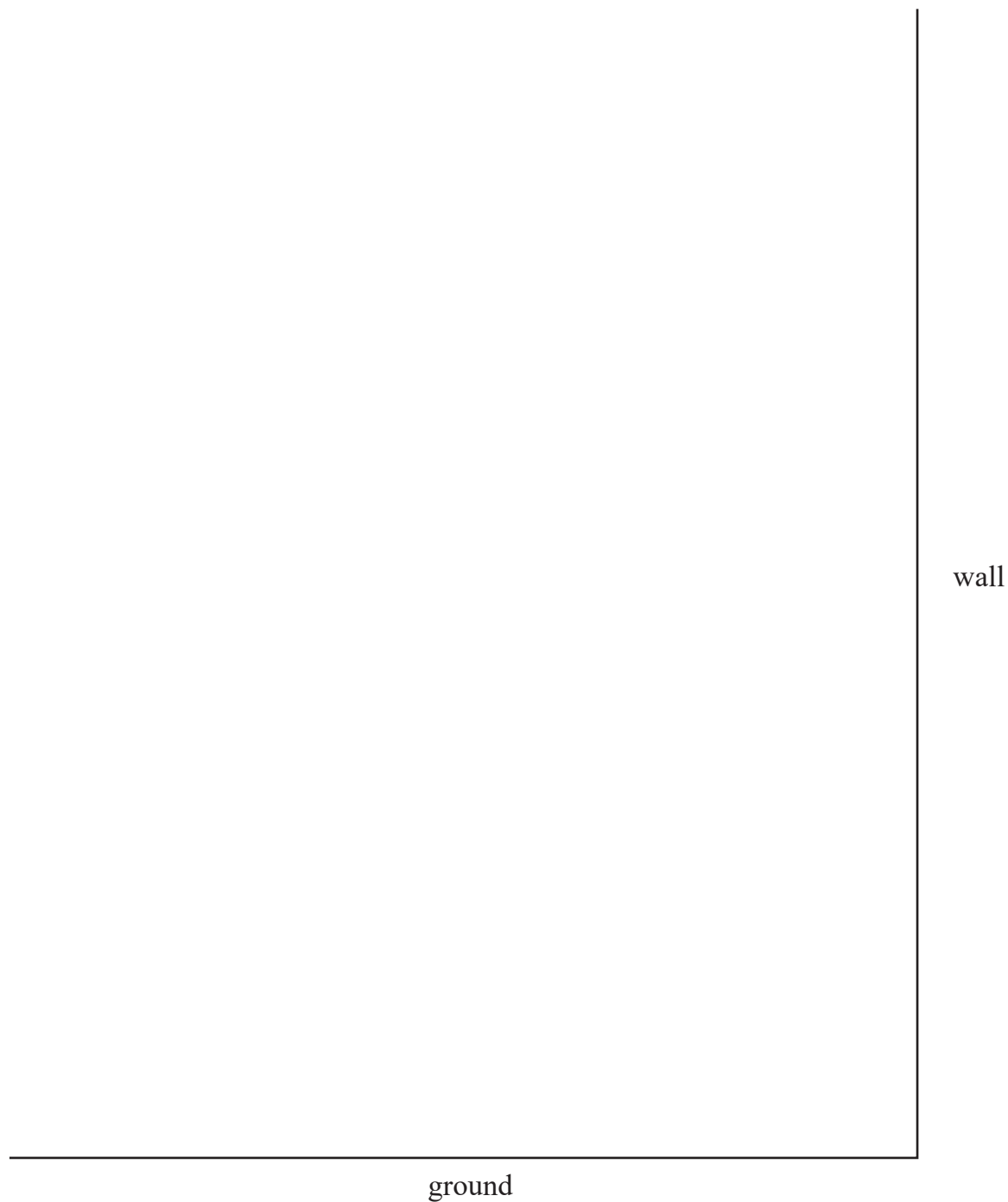
diagram not drawn accurately

A ladder is 4 metres long.

The bottom of the ladder is 1 metre from a vertical wall.



Use a scale drawing, with 4 cm : 1 m, to find the height of the top of the ladder above the ground.



Answer _____ m [3]

[Turn over



6 Two companies offer Jack a job as a car mechanic.

The Car Guys will pay Jack £112.70 per day, working Monday to Friday.

Dr Auto will pay Jack £15.49 an hour for a 37-hour week.

Which company pays the higher weekly wage, and by how much?

Show your working.

Answer _____ pays £ _____ more each week [3]



7 (a) Tom, a quarterback, weighs 16 stone 5 pounds.

1 stone = 14 pounds

What is Tom's weight in pounds?



© Getty Images

Answer _____ pounds [1]

(b) Andy, a rugby player, weighs 120 kg.

Who is heavier, Tom or Andy?

Show all working clearly.

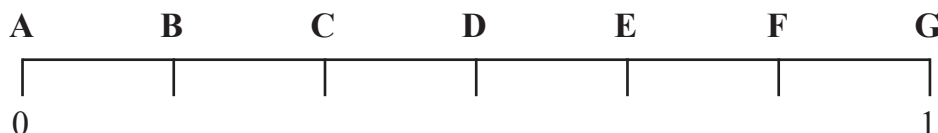


© Getty Images

Answer _____ [2]

[Turn over



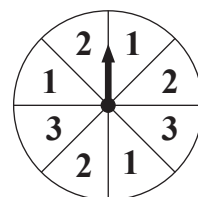


The probability scale shown has been labelled with letters **A** to **G**.

Write down **the letter** which matches the probability of the following events happening.

- (a) This spinner is spun once.

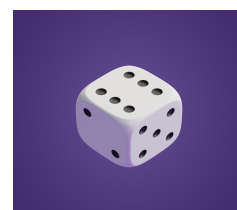
It lands on a number less than 4



Answer _____ [1]

- (b) A fair dice is thrown.

It lands on an even number.



© Getty Images

Answer _____ [1]

- (c) There are 12 beads in a bag.

Five beads are blue, three beads are pink, and the rest are yellow.

A bead is taken out of the bag at random.

The bead taken is yellow.



Answer _____ [1]





© Getty Images

It takes 2 days to paint the outside of 6 houses.

(a) How long would it take to paint the outside of 15 houses?

Answer _____ days [2]

(b) State one assumption you made in answering part (a).

Answer _____
_____ [1]

[Turn over



10 Here are some numbers.

12	8	29
18	30	46
49	2	21

From the numbers given, write down

(a) the square number,

Answer _____ [1]

(b) the cube number,

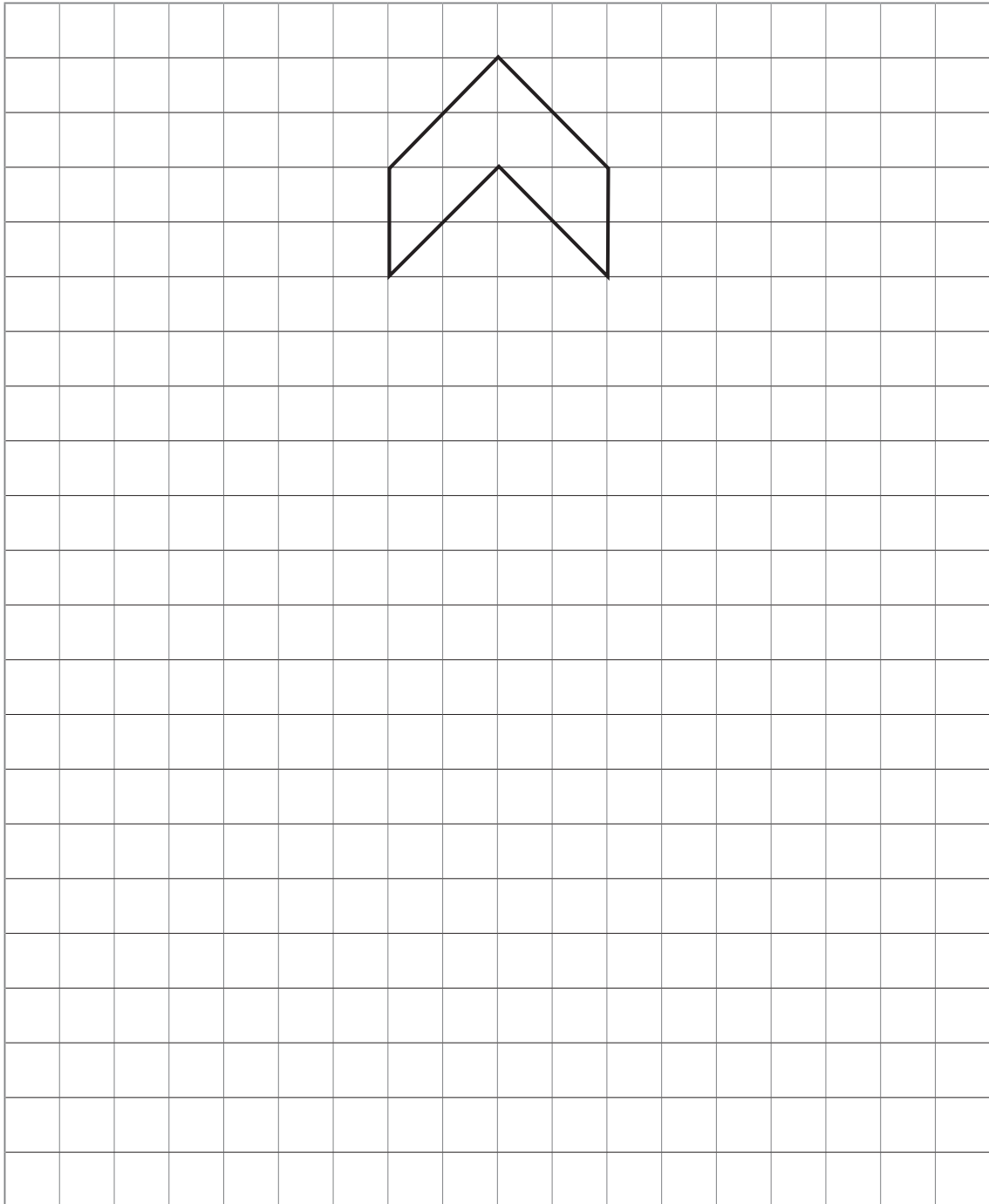
Answer _____ [1]

(c) the triangular number.

Answer _____ [1]



11 Enlarge the shape on the grid below using a **scale factor of 3**



[3]

[Turn over



12 Conor mixes red, blue and yellow paint in the ratio 4 : 2 : 1

He uses 10 litres of blue paint.

He sells the mixed paint at a price of £18.25 per litre.

Work out the total price of the mixed paint.

Answer £ _____ [3]





© Getty Images

A firm holds a Christmas raffle for its 20 employees.

The raffle tickets are numbered from 1 to 20

A ticket is drawn at random from a hat.

What is the probability that the ticket drawn is

(a) a number less than 10,

Answer _____ [1]

(b) a number more than 14,

Answer _____ [1]

(c) a prime number?

Answer _____ [1]

[Turn over



14 Julie collects 50p coins.

70 of these coins weigh 560 g.

What is the **value** of 880 g of these coins?

Answer £ _____ [3]



15 Ben and Orla share the cost of a meal in the ratio 3 : 1

The meal costs £64

Ben then pays the taxi fare.

Ben pays a total of £60

How much is the taxi fare?

Answer £_____ [3]



- 16 Data is recorded about the age and treatment received by patients who visit a dentist on a Monday.

	Patients aged 30 or under	Patients aged over 30
Filling	9	6
Extraction	5	13

- (a) What is the probability that one of these patients selected at random is over 30 and has an extraction?

Answer _____ [1]

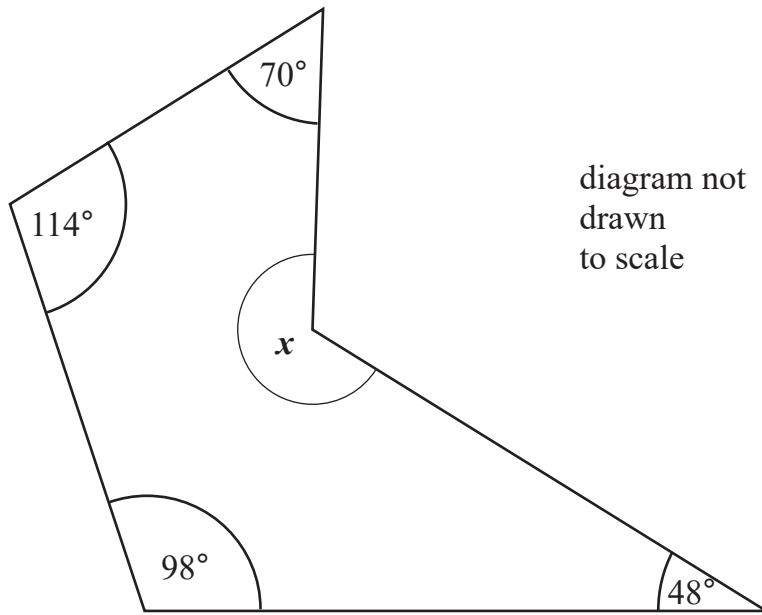
- (b) One of the patients aged 30 or under is selected at random.

What is the probability that this patient has a filling?

Answer _____ [1]



17 A sketch of an irregular pentagon is shown.



Calculate the value of x .

Show all your working.

Answer _____ ° [3]



THIS IS THE END OF THE QUESTION PAPER

BLANK PAGE

DO NOT WRITE ON THIS PAGE

14118



24GMC5222





BLANK PAGE
DO NOT WRITE ON THIS PAGE

14118



24GMC5223

Sources: All images © CCEA unless stated

DO NOT WRITE ON THIS PAGE

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	

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.

