AQA

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Forename(s) _____

Candidate signature _____

declare this is my own work.

GCSE MATHEMATICS

F

Foundation Tier

Paper 1 Non-Calculator

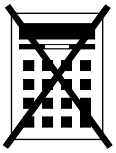
Shadow paper based on June 2024 question paper

Time allowed: 1 hour 30 minutes

For Examiner's Use	
Pages	Mark
2–3	
4–5	
6–7	
8–9	
10–11	
12–13	
14–15	
16–17	
18–19	
20–21	
22–23	
24–25	
TOTAL	

Materials

For this paper you must have:
- mathematical instruments
- the Formulae Sheet (enclosed).



You must **not** use a calculator.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.

Advice

In all calculations, show clearly how you work out your answer.

Answer **all** questions in the spaces provided.

Do not write outside the box

1 (a) Work out 350 ÷ 5

[1 mark]

Answer _____

1 (b) Work out 2706 – 319

[2 marks]

Answer _____

Do not write outside the box

2 (a) Complete the statement.

[1 mark]

4 centimetres = _____ milimetres

2 (b) Complete the statement.

[1 mark]

3 kilograms = _____ grams

2 (c) Convert 56 kilometres to miles.

Use 8 kilometres = 5 miles

[2 marks]

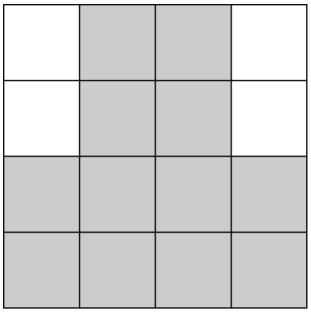
Answer _____ miles

7

Turn over ►

Do not write outside the box

3 (a) Here is a centimetre grid.

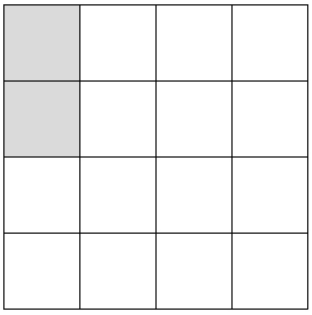


What **percentage** of the grid is now shaded?

[1 mark]

Answer _____ %

3 (b) Kai has shaded two small squares on this centimetre grid.



He wants $\frac{1}{2}$ of the grid to be shaded.

How many **more** small squares must he shade?

[2 marks]

_____

_____

Answer _____

Do not write outside the box

4 (a) Here is a list of four numbers.

4.88 5.27 5.38 5.13

Use **one** number from the list to complete each statement.

[2 marks]

The number closest in value to 5 is _____

The number that rounds to 5.3 to 1 decimal place is _____

4 (b) Here is a list of six numbers.

−10 −5 −2 1 6 10

Use **two** numbers from the list to complete each statement.

[2 marks]

Two numbers that **add** to make 8 are _____ and _____

Two numbers that **multiply** to make 10 are _____ and _____

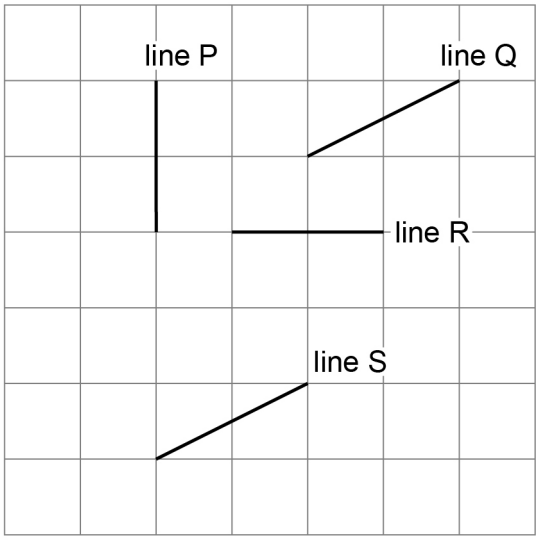
Turn over for the next question

7

Turn over ►

Do not write outside the box

5 (a) Here are four lines on a square grid.

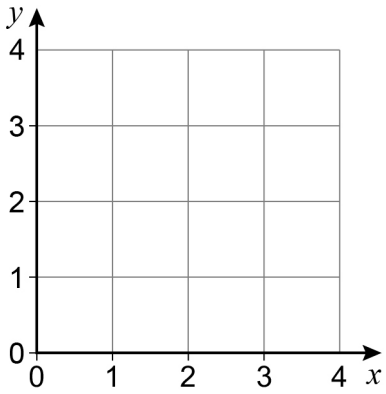


Which **two** lines are perpendicular?

[1 mark]

line _____ and line _____

5 (b) Here is a different grid.



There are **four** points on this grid that each have

both coordinates that are whole numbers

and

x-coordinate + y-coordinate = 5

Plot the **four** points on the grid.

[2 marks]

Do not write outside the box

6 (a) Write down the value of 5^2

[1 mark]

Answer _____

6 (b) Write down the value of $\sqrt{81}$

[1 mark]

Answer _____

6 (c) Work out the value of 2^5

[1 mark]

_____

_____

_____

Answer _____

Turn over for the next question

6

Turn over ►

Do not write outside the box

7 (a) At a dessert shop, childrens ice creams have **two different** flavours

The flavours are

strawberry (S) vanilla (V) chocolate (C)

Complete the table to list all the possible pairs of toppings.

[1 mark]

SV

7 (b) At the shop, brownie bites can be ordered in small portions and large portions.

Small portion
8 brownie bites

Large portion
15 brownie bites

A group of people want to order **exactly** 54 brownie bites

Show how they can do this.

[2 marks]

Number of Small portions _____

Number of Large portions _____

Do not write outside the box

8

Rulers	35p each
Erasers	50p each

Salma has £10 to buy rulers and erasers

She buys

8 rulers

and

as many erasers as possible.

How many erasers does she buy?

[4 marks]

Answer _____

7

Do not write outside the box

9 Anna and Shiloh play football

The number of goals they scored in 8 seasons is shown.

Anna	12	15	18	9	17	12	19	22
Shiloh	14	13	11	7	11	14	10	13

9 (a) Complete this table.

[2 marks]

	Range	**Median**
Anna		16
Shiloh	7	

9 (b) Which player was more consistent in thenumber of goals scored each season?

Tick a box.

Anna ☐ Shiloh ☐

Give a reason for your answer.

[1 mark]

Do not write outside the box

10 Work out 15% of 1800

[3 marks]

Answer _____

Turn over for the next question

6

Do not write outside the box

11 A delivery company uses this formula to deliver parcels within a city.

$$C = 4P + 7$$

C = cost, in £, for the customer

P = number of parcels to be delivered

11 (a) How much does it cost for 5 parcels to be delivered?

[2 marks]

Answer £ _____

11 (b) The cost for another customer was £33

Show why this cost **must** be incorrect.

[1 mark]

Do not write outside the box

12 Two boxes, A and B, each contain coloured discs.

In box A, $\frac{16}{25}$ of the discs are blue.

In box B, $\frac{3}{5}$ of the discs are blue.

Which box has the **greater** proportion of blue discs, A or B?

You **must** show your working.

[2 marks]

Answer _____

Turn over for the next question

5

Turn over ►

Do not write outside the box

13 (a) Two colleagues share £450 in the ratio 1 : 4

Work out the larger share.

[2 marks]

Answer £ _____

13 (b) A breakdancer wins or loses contests in the ratio win : lose = 7 : 3

What fraction of the matches do they win?

[1 mark]

Answer _____

Do not write outside the box

14 Here is a multiplication table.

×	**61**	**63**	**65**	**67**
61	3721	3843	3965	4087
63	3843	3969	4095	4221
65	3965	4095	4225	4355
67	4087	4221	4355	4489

Use the table to answer the following questions.

14 (a) Work out 4221 ÷ 67

[1 mark]

Answer _____

14 (b) Work out 6.3 × 6.5

[1 mark]

Answer _____

14 (c) Work out 61 × 64

[2 marks]

_____

_____

_____

_____

Answer _____

7

Turn over ►

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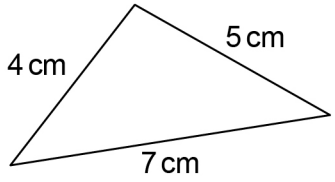
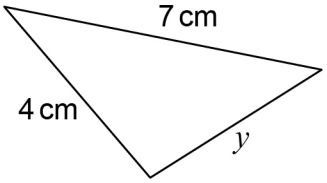
15 These two triangles are **congruent**.

Not drawn accurately





Write down the value of y.

[1 mark]

$y =$ _____ cm

16 c and d are positive numbers.

c is even.

d is odd.

Tick a box for each expression.

[3 marks]

	Even	**Odd**	**Cannot tell**
$c - d$	☐	☐	☐
$2d$	☐	☐	☐
$\frac{c}{2} + d$	☐	☐	☐

Do not write outside the box

17 A linear sequence has

- 1st term = 8
- 1st term + 2nd term = 27

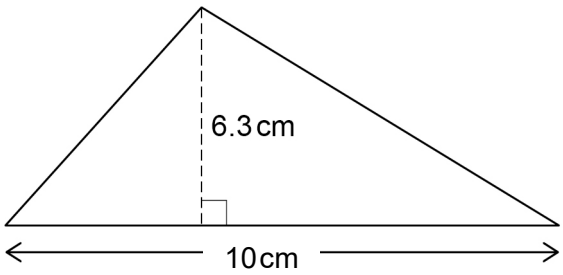
Work out the 6th term.

[4 marks]

Answer _____

18

Not drawn accurately



Work out the area of this triangle.

[2 marks]

Answer _____ cm^2

10

Turn over ►

Do not write outside the box

19 The vector $\begin{pmatrix} 2 \\ -8 \end{pmatrix}$ translates A to B.

Write down the vector that translates B to A.

[1 mark]

Answer $\begin{pmatrix} \quad \\ \quad \end{pmatrix}$

20 The attendance for a pop concert is 5800 people to the nearest 100

20 (a) Write down the minimum possible attendance.

[1 mark]

Answer _____

20 (b) Write down the maximum possible attendance.

[1 mark]

Answer _____

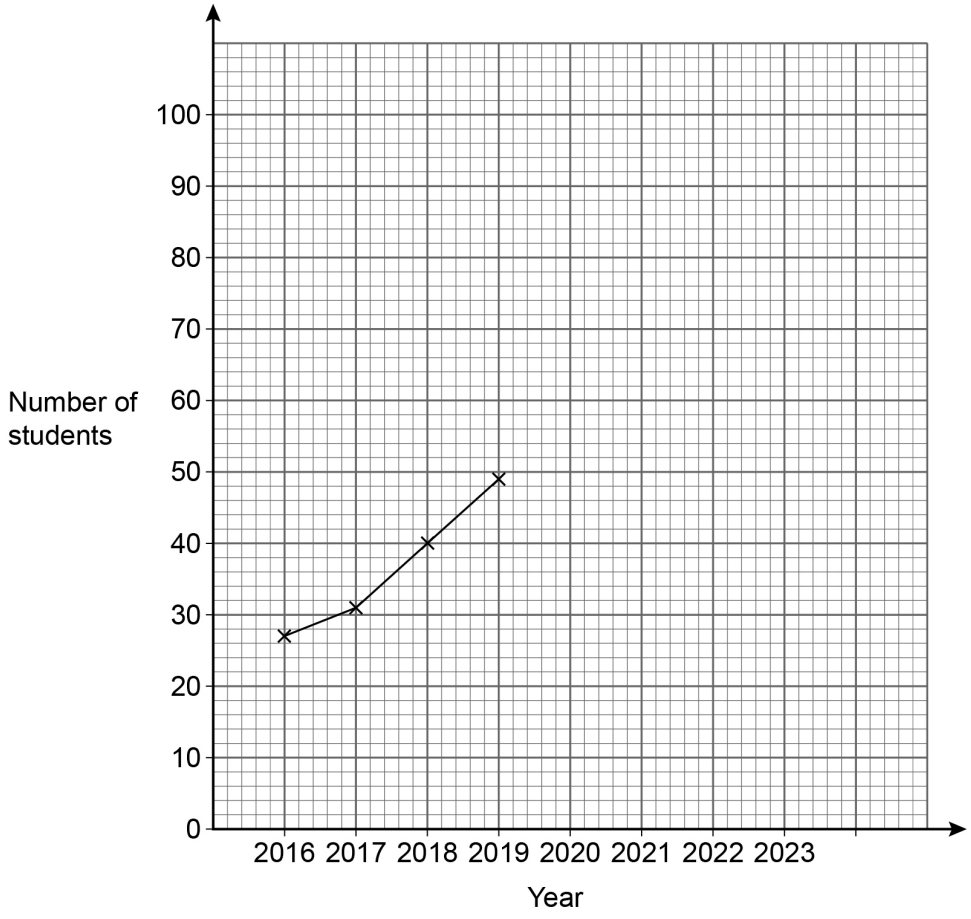
Do not write outside the box

21 The table shows the number of students on a course in different years.

Year	2016	2017	2018	2019	2020	2021	2022	2023
Number of students	27	31	40	49	60	71	77	82

A time-series graph is drawn to represent the data.

The first four points have been plotted.



21 (a) Complete the graph.

[2 marks]

21 (b) Estimate the number of students on the course in 2024.

[1 mark]

Answer _____

6

Turn over ►

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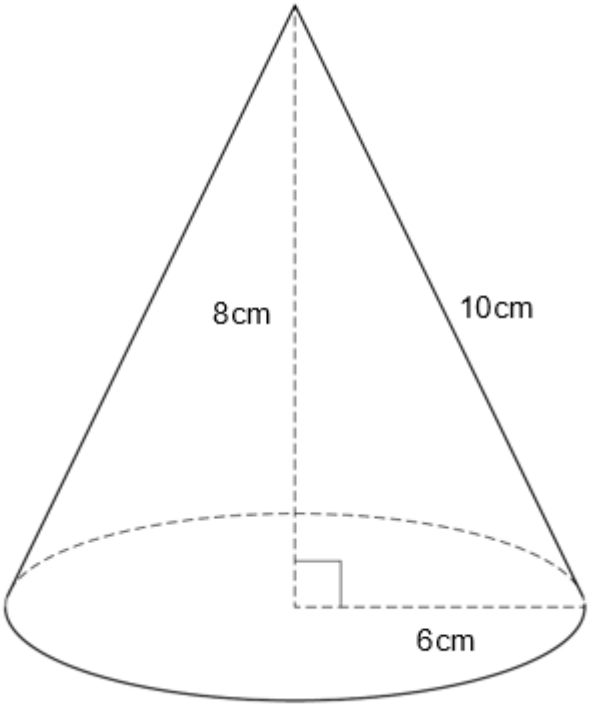
22 Here is a cone.



22 (a)

Curved surface area of a cone $= \pi rl$

where r is the radius and l is the slant height

Belinda tries to work out the curved surface area in terms of π

Curved surface area of the cone $= \pi \times 6 \times 8$

$= 48\pi \text{ cm}^2$

What mistake has she made?

[1 mark]

Do not write outside the box

22 (b) Adrian uses $\pi = 3$ to estimate the area of the **base** of the cone.

Work out his estimate.

[2 marks]

Answer _____ cm^2

22 (c) Belinda uses $\pi = 3.14$ to estimate the area of the **base** of the cone.

Is Belinda's estimate more than or less than Adrian's estimate?

Tick a box.

More than ☐ Less than ☐

Give a reason for your answer.

[1 mark]

Turn over for the next question

4

Do not write outside the box

23 Each day, Edmund eats

$\frac{1}{3}$ of a packet of nuts in the morning

and

$\frac{1}{3}$ of a packet of nuts in the afternoon.

How many packets of nuts does he eat in a week?

[3 marks]

Answer _____

Do not write outside the box

24 Solve $8x - 19 = 4x + 29$

[3 marks]

$x =$ _____

25 In a gallery

the area of the largest room is $38\,m^2$

the area of the smallest room is $17.2\,m^2$

Express the area of the largest room as a fraction of the area of the smallest.

Give your answer in its simplest form.

[3 marks]

Answer _____

9

Turn over ►

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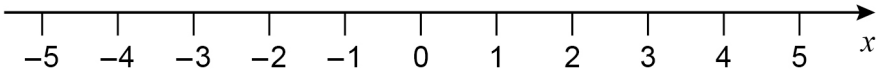
26 (a) Represent $-3 < x < 1$ on the number line.

[1 mark]



26 (b) Solve $4y + 10 \geqslant 5$

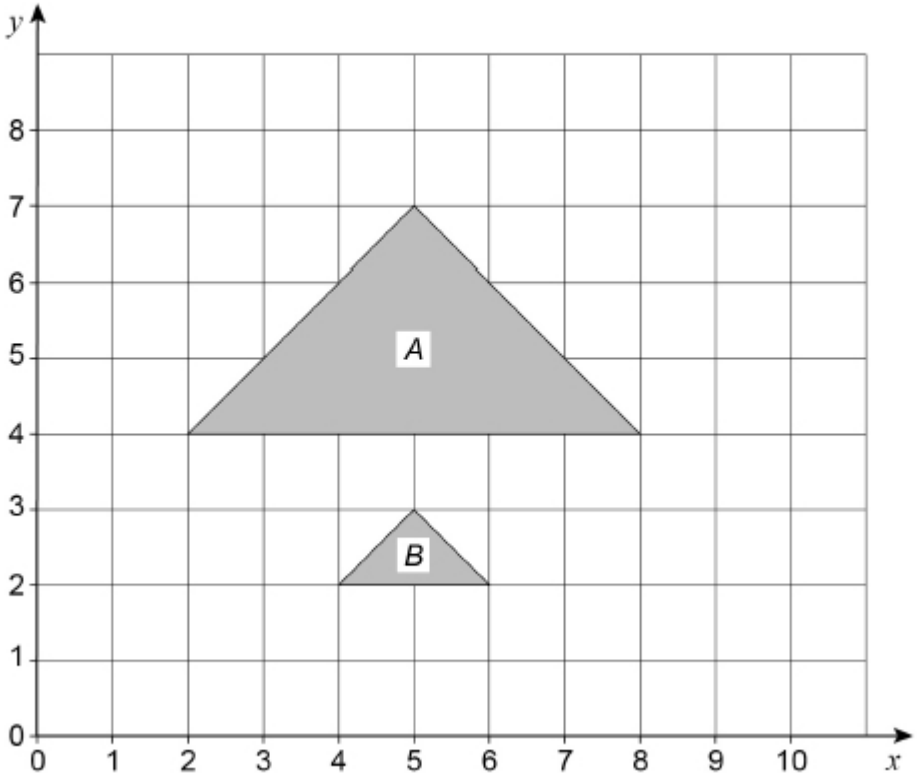
[2 marks]

Answer _____

Do not write outside the box

27

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



[3 marks]

END OF QUESTIONS

6

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There are no questions printed on this page

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ANSWER IN THE SPACES PROVIDED

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Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

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