Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

I declare this is my own work.

GCSE MATHEMATICS

F

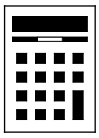
Foundation Tier Paper 2 Calculator

Wednesday 4 June 2025 Morning Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:

- a calculator
- mathematical instruments
- the Formulae Sheet (enclosed).



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.

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	
TOTAL	

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

Do not write outside the box

1 (a) Solve $w + 8 = 19$

[1 mark]

$w =$ _____

1 (b) Solve $3x = 24$

[1 mark]

$x =$ _____

1 (c) Solve $20 - y = 7$

[1 mark]

$y =$ _____

Do not write outside the box

2 The **only** animals in a field are sheep and cows.

The ratio sheep : cows = 31 : 47

There are fewer than 100 animals in the field.

2 (a) Write down the number of **cows** in the field.

[1 mark]

Answer _____

2 (b) **In total**, how many animals are there in the field?

[1 mark]

_____

_____

_____

Answer _____

Turn over for the next question

5

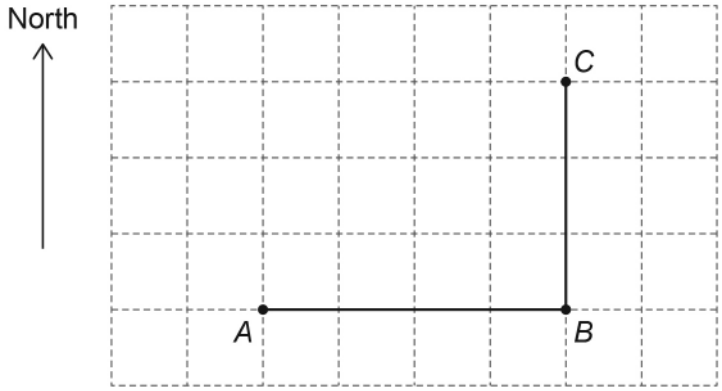
Turn over ►

Do not write outside the box

3 A path joins points *A*, *B*, and *C*.

The scale drawing shows the path on a centimetre grid.

Scale: 1 centimetre represents 10 metres



3 (a) Write down the direction of *B* from *A*.

[1 mark]

Answer _____

3 (b) Work out the **actual** distance along the path from *A* to *C*.

[2 marks]

Answer _____ metres

Do not write outside the box

4 (a) Simplify $a \times b$

[1 mark]

Answer _____

4 (b) Simplify fully $c + c + c$

[1 mark]

Answer _____

4 (c) Simplify fully $p \times p \times p$

[1 mark]

Answer _____

4 (d) Simplify $d \div d$

[1 mark]

Answer _____

Turn over for the next question

7

Do not write outside the box

5 Jenny walks

- 400 metres to the shop
- 250 metres to the park
- 380 metres home.

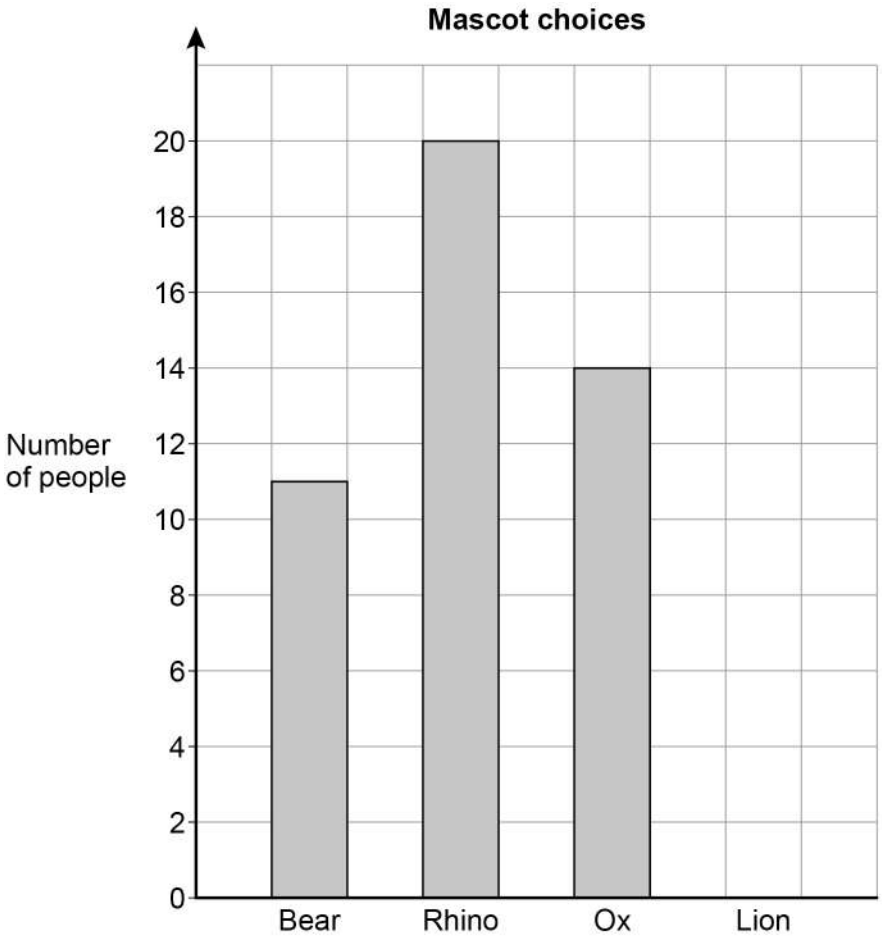
Show that Jenny walks more than 1 kilometre.

[2 marks]

Do not write outside the box

6 50 people choose a mascot for a team.

The bar chart shows some information about their choices.



The **50** people each choose one of bear, rhino, ox or lion.

Complete the bar chart.

[4 marks]

6

Do not write outside the box

7 Work out 80p as a fraction of £1

Give your answer in its simplest form.

[2 marks]

Answer _____

8 (a) Convert $3\frac{1}{2}$ hours to minutes.

[1 mark]

Answer _____ minutes

8 (b) Convert 1400 grams to kilograms.

[1 mark]

Answer _____ kilograms

8 (c) Convert 32 kilometres to miles.

Use 8 kilometres = 5 miles

[2 marks]

Answer _____ miles

Do not write outside the box

9 The table shows information about two workers on one day.

	Total working time (hours)	**Working time spent online (minutes)**
Zeke	8	200
Margot	4	110

9 (a) Margot started work at 10:30am

What time did she finish?

[1 mark]

Answer _____

9 (b) Zeke says he spent **more than one quarter** of his total working time online.

Is he correct?

[3 marks]

Tick a box.

Yes ☐ No ☐

Show working to support your answer.

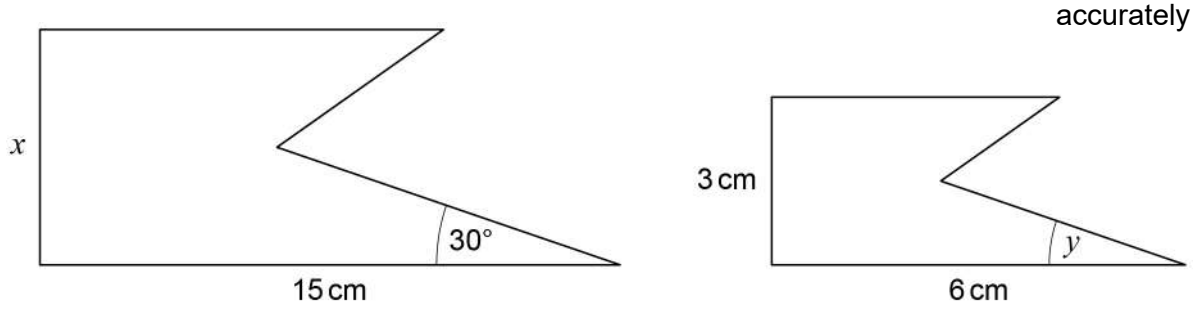
10

Turn over ►

Do not write outside the box

10 These two shapes are similar.

Not drawn accurately



10 (a) Write down the value of y.

[1 mark]

$y =$ _____ °

10 (b) Work out the value of x.

[2 marks]

$x =$ _____ cm

Do not write outside the box

11 Here are two expressions, A and B.

A	**B**
$7(x - 2) + 4x + 6$	$5(3x + 2) - 4x - 18$

Show that A and B are equivalent.

[3 marks]

12 4 apples cost £2.20

Work out the cost of 7 of these apples.

[2 marks]

Answer £ _____

8

Do not write outside the box

13 Ingrid records the number of minutes she uses her mobile phone over four weeks.

140 168 205 192

13 (a) Work out the range.

[1 mark]

Answer _____ minutes

13 (b) Ingrid records the number of minutes for a fifth week.
The mean for all **five** weeks is 178 minutes.

Work out the number of minutes used in the fifth week.

[3 marks]

Answer _____ minutes

Do not write outside the box

14 Match each description to the correct expression.

One has been done for you.

[4 marks]

	$2n$
2 more than n	$n + 2$
n doubled	$\sqrt{n}$
n multiplied by itself	$\frac{n}{2}$
half of n	$n - 2$
2 less than n	n^2
	$2 - n$

8

Do not write outside the box

15 A rectangle has

- an area of 60 cm^2
- a side length of 10 cm

Warren says,

"The perimeter of the rectangle is 32 cm because 60 ÷ 10 = 6"

Is Warren correct?

Tick a box.

Yes ☐ No ☐

Show working to support your answer.

[1 mark]

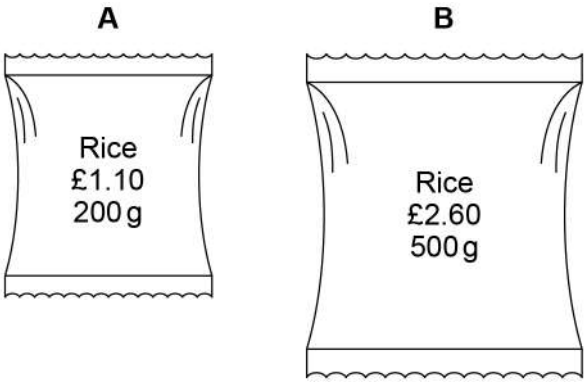
16 Rearrange $a + 3 = b$ to make a the subject.

[1 mark]

$a =$ _____

Do not write outside the box

17



Which packet of rice is better value for money?

Tick a box.

A ☐ B ☐

You **must** show your working.

[3 marks]

5

Turn over ►

Do not write outside the box

18 (a) Sam uses either the bus or the train to get to work.

$$\frac{\text{number of days using bus}}{\text{number of days using train}} = \frac{1}{8}$$

Write down the ratio number of days using bus : number of days using train

[1 mark]

Answer _____ : _____

18 (b) Write the ratio $6a : 5a$ in the form $n : 1$ where n is a **decimal**.

[2 marks]

Answer _____ : 1

18 (c) $1 : x = x : 4$

Work out the value of x

[1 mark]

$x =$ _____

Do not write outside the box

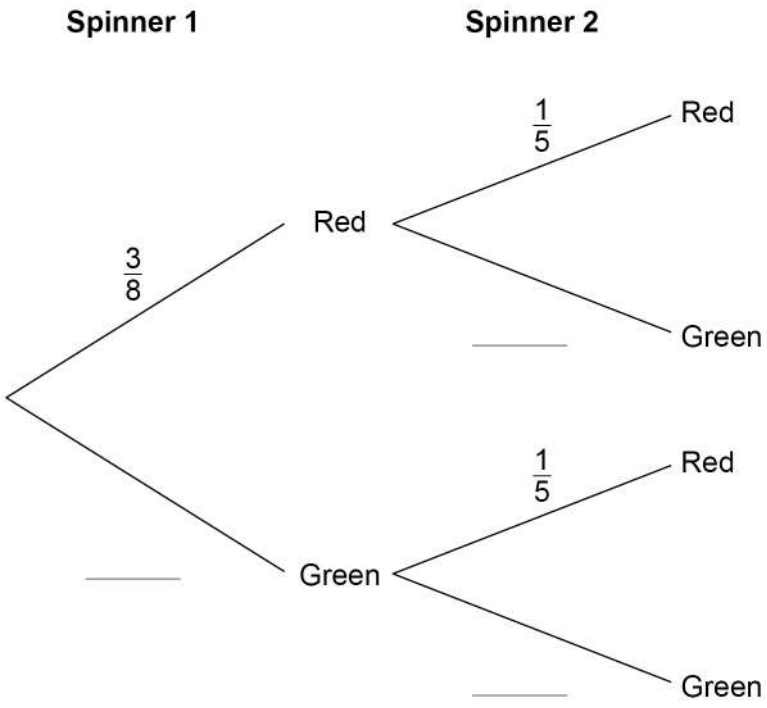
19 Two spinners each have only red sections and green sections.

Spinner 1 P(red) = $\frac{3}{8}$

Spinner 2 P(red) = $\frac{1}{5}$

19 (a) Complete the tree diagram.

[2 marks]



19 (b) Both spinners are spun.

Work out the probability that **both** spinners land on red.

[1 mark]

Answer _____

7

Turn over ►

Do not write outside the box

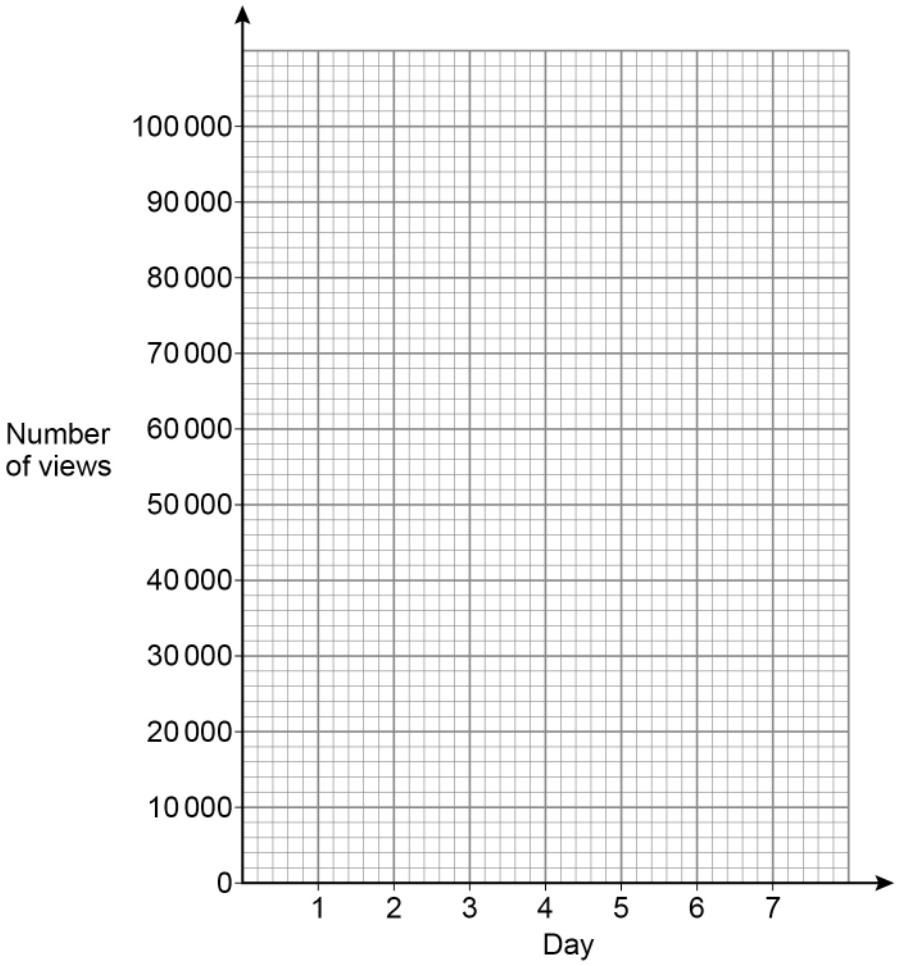
20 Youssuf posted an advert on his social media channel.

The table shows the number of views of the advert during its first 6 days.

Day	1	2	3	4	5	6
Number of views	49 000	95 000	87 000	77 000	64 000	48 000

20 (a) On the grid, draw a time series graph to represent the data.

[2 marks]



Do not write outside the box

20 (b) Youssuf receives 0.018p for each view of the advert.

Estimate how much he receives from views of the advert on **day 7**

[3 marks]

Answer £ _____

21 70% of the discs in a box are red and the rest are blue.

- 40% of the red discs are removed.
- 50% of the blue discs are removed.

In total, what percentage of the discs are removed from the box?

[3 marks]

Answer _____ %

8

Do not write outside the box

22 A group of adults and students go to a theme park.

Here are the prices.

Adult	£24.50
Student	£16.25

One adult free with every 5 students

In the group there are 48 students.

The total price for the group is £927

How many adults are in the group?

[4 marks]

Answer _____

Do not write outside the box

23 (a) The length of a fence panel is 160 cm to the nearest 10 cm

Complete the error interval.

[2 marks]

Answer _____ cm $\leqslant$ length $<$ _____ cm

23 (b) A different fence panel measures 2 metres to the nearest 10 cm

Kim says that the total length of **three** of these fence panels must be less than 6.2 m

Show that Kim is correct.

[2 marks]

24 Circle the expression which is a factor of $3x + 15$

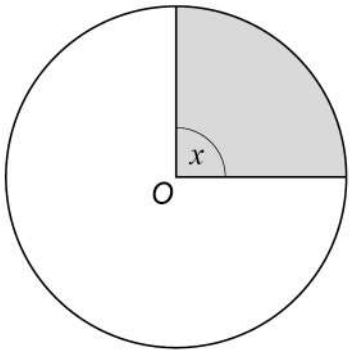
[1 mark]

$3x$ $\quad$ $x + 12$ $\quad$ $x + 5$ $\quad$ $x + 15$

9

Do not write outside the box

25 Here is a circle, centre *O*.



Not drawn accurately

25 (a) The circle has a circumference of 20 cm

Assume that angle x is 90°

Work out the shaded area.

Give your answer as a decimal.

[3 marks]

Answer _____ cm^2

Do not write outside the box

25 (b) In fact, angle x is smaller than 90°

What does this mean about the shaded area?

Tick **one** box.

[1 mark]

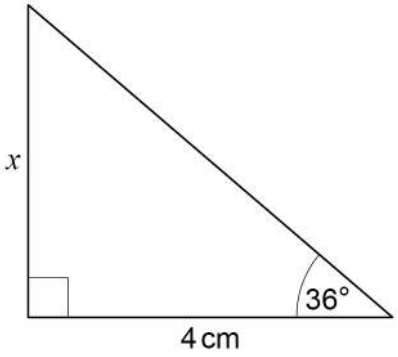
- ☐ It is smaller than the answer to part (a)
- ☐ It is the same as the answer to part (a)
- ☐ It is larger than the answer to part (a)
- ☐ It could be any of the above

Turn over for the next question

4

Do not write outside the box

26



Not drawn accurately

Use trigonometry to work out the value of x.

You **must** show your working.

[3 marks]

$x =$ _____ cm

END OF QUESTIONS

3