

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 1 Non-Calculator

Friday 19 May 2023

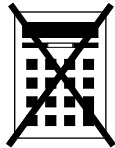
Morning

Time allowed: 1 hour 30 minutes

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.

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	
TOTAL	

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 Here is a list of numbers.

14 9 20 29 3 45 33

1 (a) Which number in the list is a multiple of 4 ?

[1 mark]

Answer _____

1 (b) Which number in the list is a square number?

[1 mark]

Answer _____



1 (c) Which **two** numbers in the list have a total of 43 ?

[1 mark]

Answer _____ and _____

1 (d) Work out
largest number in the list \div smallest number in the list

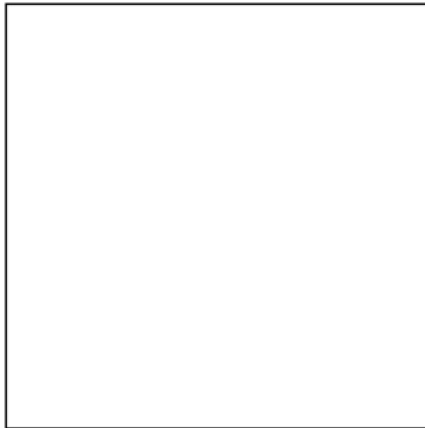
[1 mark]

Answer _____

Turn over for the next question



2 (a) Here is a square.



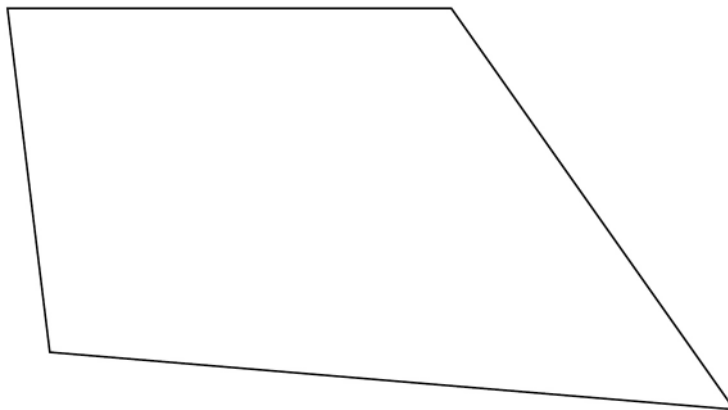
Use a ruler to measure a side length of the square.

Give your answer in **millimetres**.

[1 mark]

Answer _____ mm

2 (b) Here is a quadrilateral.



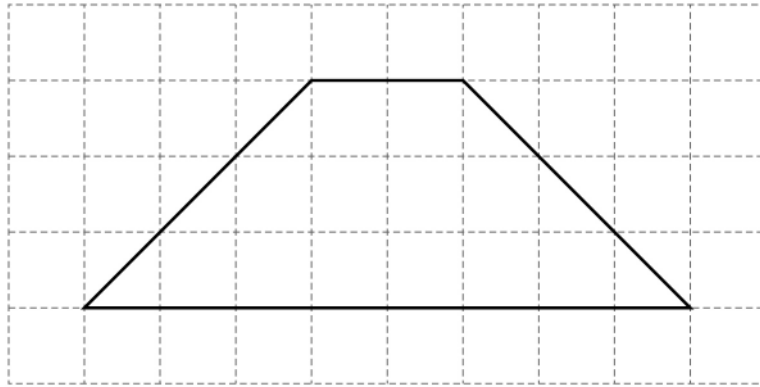
Use a protractor to measure the size of the **smallest** angle.

[1 mark]

Answer _____ °



- 2 (c) A different quadrilateral is drawn on a centimetre grid.

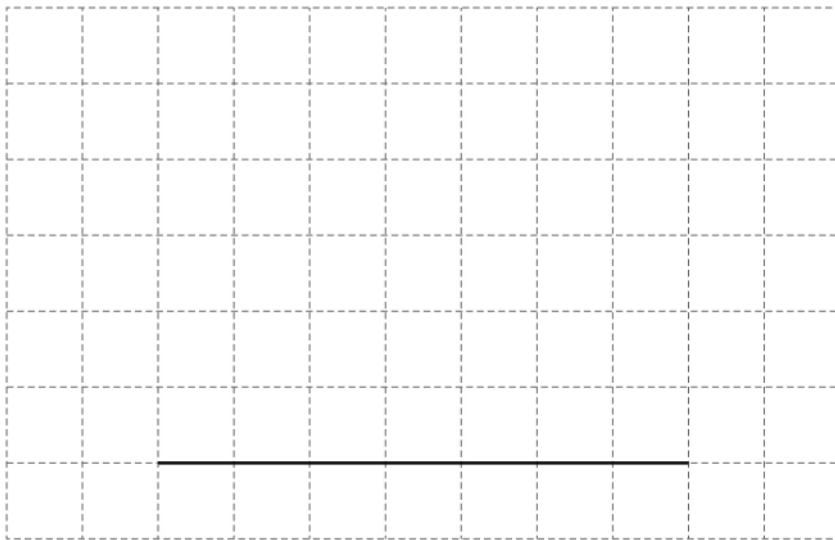


By counting squares, work out the **area** of the quadrilateral.

[1 mark]

Answer _____ cm²

- 2 (d) One side of a rectangle is drawn on this centimetre grid.



Complete the rectangle so that it has a **perimeter** of 20 cm

[1 mark]



3 (a) Work out $(-4) \times (-3)$

[1 mark]

Answer _____

3 (b) Work out $6 \times (-5)$

[1 mark]

Answer _____

3 (c) Work out $(-8)^2$

[1 mark]

Answer _____

3 (d) Work out 10^3

[1 mark]

Answer _____



4 Write 18 out of 30 as a fraction in its simplest form.

[2 marks]

Answer _____

5 At a shop
the normal price of one pen is 24p
the normal price of one calculator is £7
The shop has these special offers.

Pens

Half the normal price

Calculators

£1.50 less than the normal price

Work out the **total** price of 5 pens and 1 calculator using the special offers.

[4 marks]

Answer £ _____



6 (a) Write $3\frac{2}{5}$ as an improper fraction.

[1 mark]

Answer _____


6 (b) Write 0.19 as a fraction.

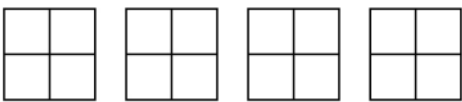
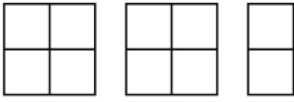
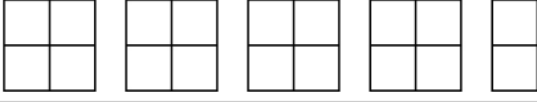
[1 mark]

Answer _____



- 7 Misha recorded the main type of weather each day for **55 days**.
The pictogram shows the results for rain, snow and cloud.

Key:  = 4 days

Rain	
Snow	
Cloud	
Sun	
Fog	

Sun was recorded on 1 **more** day than fog.

Complete the pictogram for the 55 days.

[4 marks]



8

$$T = 5P - W$$

8 (a) Work out the value of T when $P = 4$ and $W = 2$

[2 marks]

$$T = \underline{\hspace{10em}}$$

8 (b) Work out the value of P when $T = -40$ and $W = 10$

[3 marks]

$$P = \underline{\hspace{10em}}$$



9

Match each box on the left to the box on the right with the same value.

One has been done for you.

[3 marks]

$\frac{1}{10}$	0.1
$\frac{1}{2}$	0.05
$\frac{1}{4}$	20%
$\frac{1}{5}$	$\frac{2}{6}$
	0.25
	$\frac{10}{20}$

Turn over for the next question

8

Turn over ►



10 Here are two calculations, A and B.

A	$8 \times 3 + 2$
B	$21 - (15 - 4)$

Work out answer to A \times answer to B

[3 marks]

Answer _____

11 Convert 7 gallons to litres.

Use 1 gallon = 4.5 litres

[2 marks]

Answer _____ litres



- 12** The table shows monthly payments for electricity.

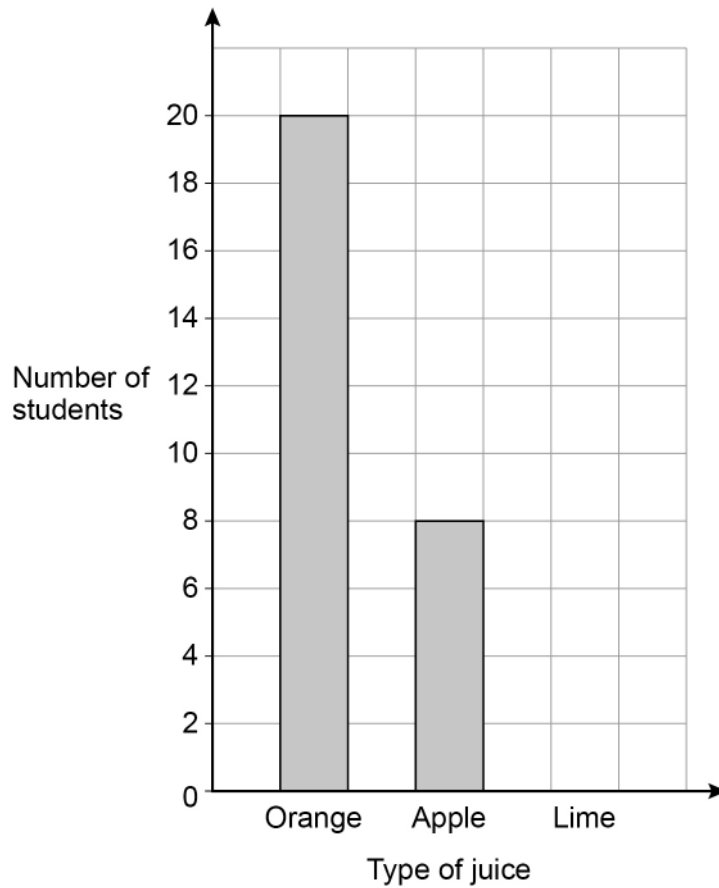
October	November
£120	£240

Write down the percentage increase from October to November.

[1 mark]

Answer _____ %

- 13** Students choose juice with their school meal in the ratio
orange : apple : lime = 5 : 2 : 3



Complete the bar chart.

[3 marks]

Turn over ►



14

Here is some data about people visiting a gym one week.

	Percentage of all visitors	Mean number of hours visiting	Range of number of hours visiting
Members	64	4	6
Guests	36	$2\frac{1}{2}$	8

Compare the data for the members with the data for the guests.

Make **three** comparisons.**[3 marks]**

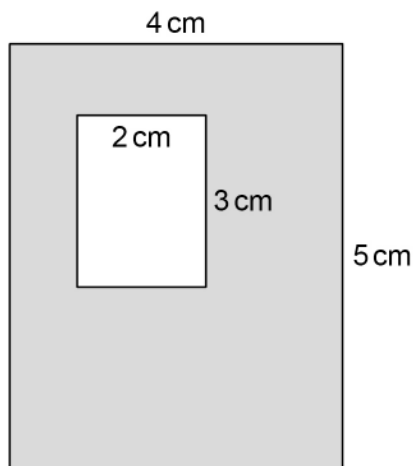
Comparison 1 _____

Comparison 2 _____

Comparison 3 _____



- 15** A large rectangle has a rectangular hole cut out.



Not drawn
accurately

Work out the percentage of the large rectangle that is shaded.

[3 marks]

Answer _____ %

- 16** Liz travels 18 miles in 20 minutes.

Work out her average speed in miles per hour.

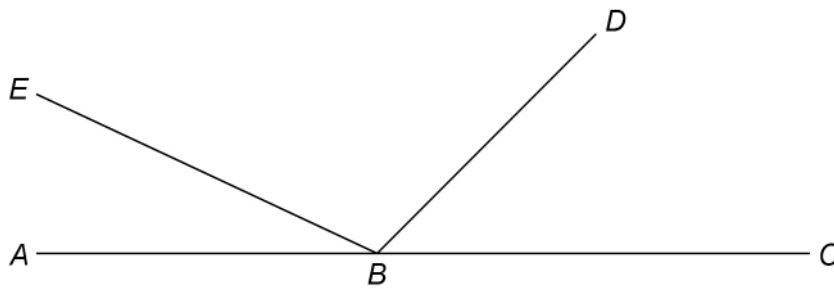
[3 marks]

Answer _____ mph

Turn over ►



17 ABC , BD and BE are straight lines.



Not drawn
accurately

$$\text{angle } EBD = 5 \times \text{angle } ABE$$

$$\text{angle } DBC = 3 \times \text{angle } ABE$$

Work out the size of angle EBD .

[3 marks]

Answer _____^o



- 18** Two prime numbers are multiplied together.
The answer is an **even** number between 50 and 60
Complete the calculation.

[3 marks]

$$\square \times \square = \square$$

- 19** Andrew and Bruce share some money in the ratio 5 : 6
Bruce gets £96

Andrew gives $\frac{1}{4}$ of his share to Carl.

Bruce gives $\frac{2}{3}$ of his share to Carl.

How much money does Carl receive?

[4 marks]

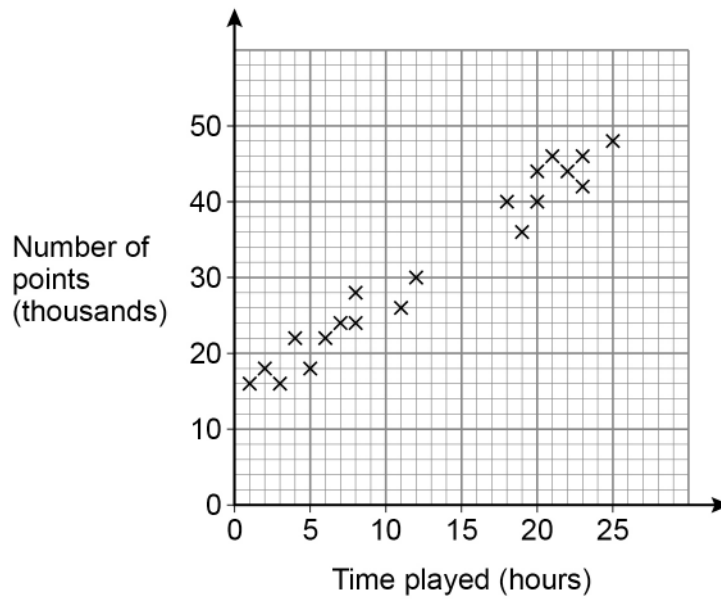
Answer £ _____



20

Players score points in a game.

The scatter graph shows the time played and the points scored by some players.



20 (a) Circle the strength and type of correlation shown.

[1 mark]

- weak positive strong positive weak negative strong negative

20 (b) Players get one extra life for every 2000 points they score.

Jonah plays the game for 15 hours.

Use a line of best fit to estimate the number of extra lives he gets.

[3 marks]

Answer _____



21

$$2^a \times 3 \times 5^2 = 600$$

Work out the value of a .

You **must** show your working.

[3 marks]

$$a = \underline{\hspace{10em}}$$

22

Expand and simplify fully $5(3x + 4) - 2(x - 1)$

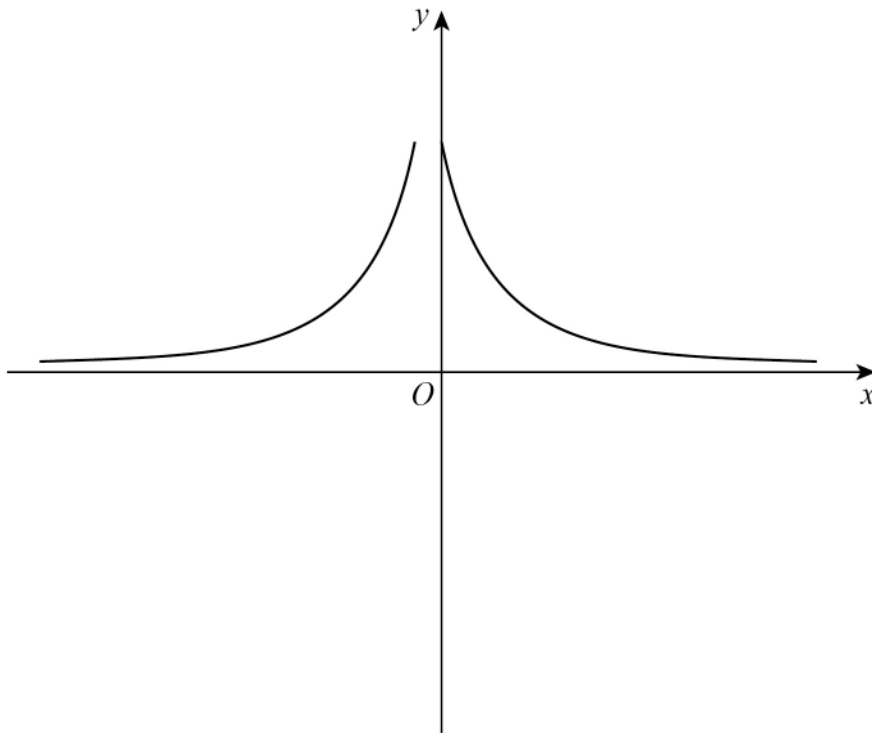
[2 marks]

Answer $\underline{\hspace{10em}}$

9

Turn over ►

23 Erika tries to sketch the graph $y = \frac{1}{x}$ with $x \neq 0$



Make **two** different criticisms of her sketch.

[2 marks]

Criticism 1 _____

Criticism 2 _____



25 Work out $2\frac{1}{3} \div \frac{4}{5}$

Give your answer as a mixed number.

[4 marks]

Answer _____

END OF QUESTIONS



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2 8



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