



Please write clearly in block capitals.

Centre number

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Candidate number

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Surname

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Forename(s)

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Candidate signature

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I declare this is my own work.

# GCSE MATHEMATICS

# F

Foundation Tier      Paper 1 Non-Calculator

Friday 19 May 2023

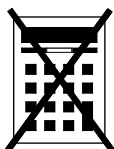
Morning

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.

## 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	
<b>TOTAL</b>	



J U N 2 3 8 3 0 0 1 F 0 1

IB/M/Jun23/E7

**8300/1F**

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

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outside the  
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**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 \_\_\_\_\_



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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]

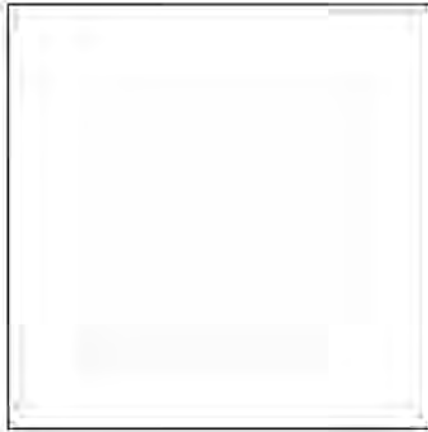
Answer \_\_\_\_\_

Turn over for the next question

Turn over ►



2 (a) Here is a square.



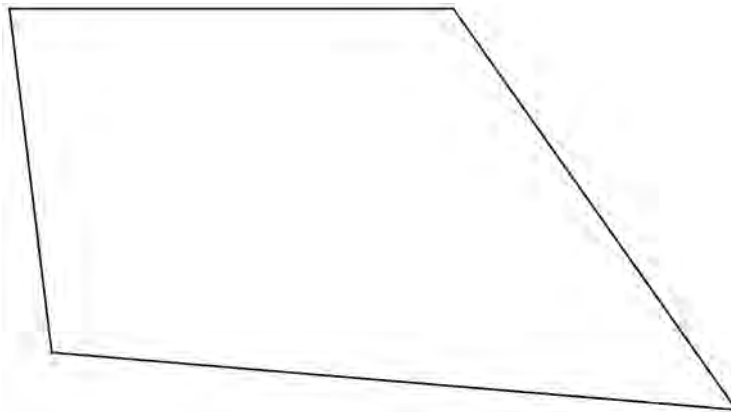
Use a ruler to measure a side length of the square.

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.

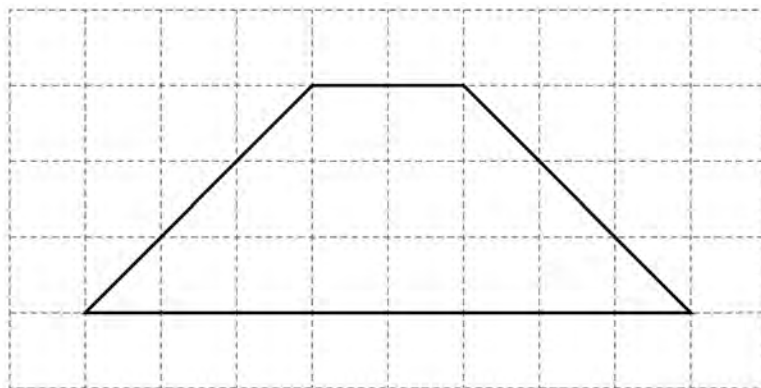
[1 mark]

Answer \_\_\_\_\_ °



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

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

[1 mark]

Answer \_\_\_\_\_  $\text{cm}^2$

- 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]

Turn over ►



**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]**

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Answer \_\_\_\_\_



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

[2 marks]

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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]

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Answer £ \_\_\_\_\_



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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 \_\_\_\_\_

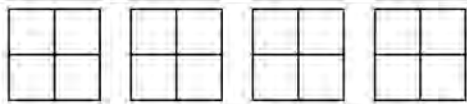
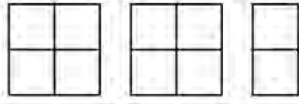
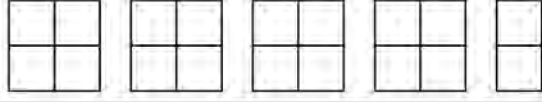




7 Misha recorded the main type of weather each day for **55 days**.  
The pictogram shows the results for rain, snow and cloud.

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outside the  
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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]

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6

Turn over ►



8

$$T = 5P - W$$

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

**[2 marks]**

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

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

**[3 marks]**

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



9

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

One has been done for you.

Do not write  
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[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.

Do not write  
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<b>A</b>	$8 \times 3 + 2$
<b>B</b>	$21 - (15 - 4)$

Work out answer to A  $\times$  answer to B

**[3 marks]**

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Answer \_\_\_\_\_

**11** Convert 7 gallons to litres.

Use 1 gallon = 4.5 litres

**[2 marks]**

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Answer \_\_\_\_\_ litres



- 12 The table shows monthly payments for electricity.

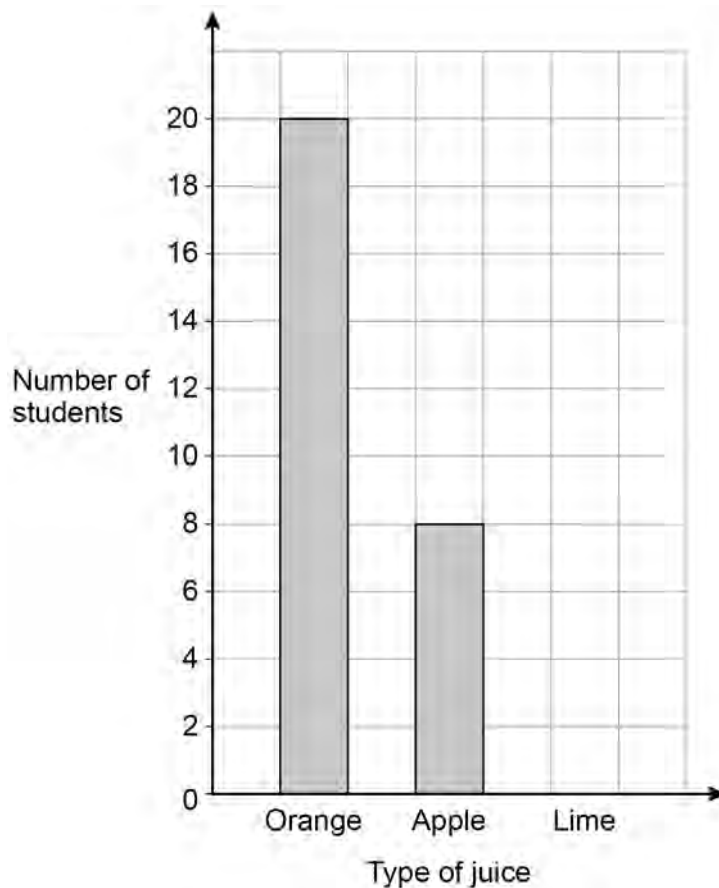
October	November
£120	£240

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]

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Turn over ►



14

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

Do not write  
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	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 \_\_\_\_\_

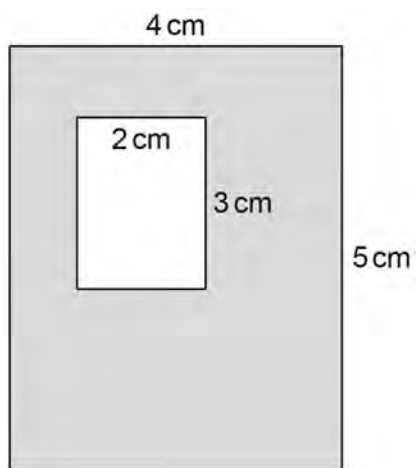
\_\_\_\_\_

\_\_\_\_\_



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

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Not drawn  
accurately

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

[3 marks]

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Answer \_\_\_\_\_ %

- 16 Liz travels 18 miles in 20 minutes.

Work out her average speed in miles per hour.

[3 marks]

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Answer \_\_\_\_\_ mph

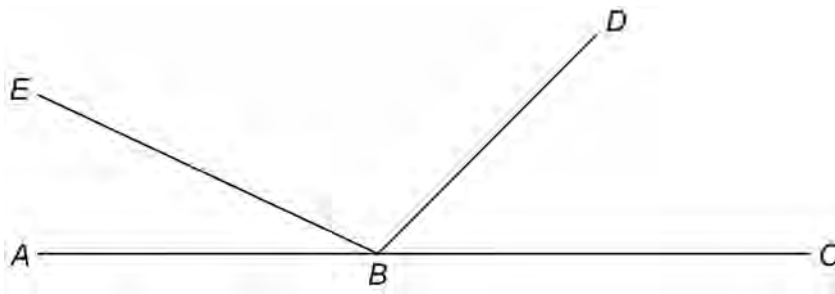
Turn over ►



17

$ABC$ ,  $BD$  and  $BE$  are straight lines.

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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]

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Answer \_\_\_\_\_ °





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

**[3 marks]**

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

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- 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]**


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Answer £ \_\_\_\_\_

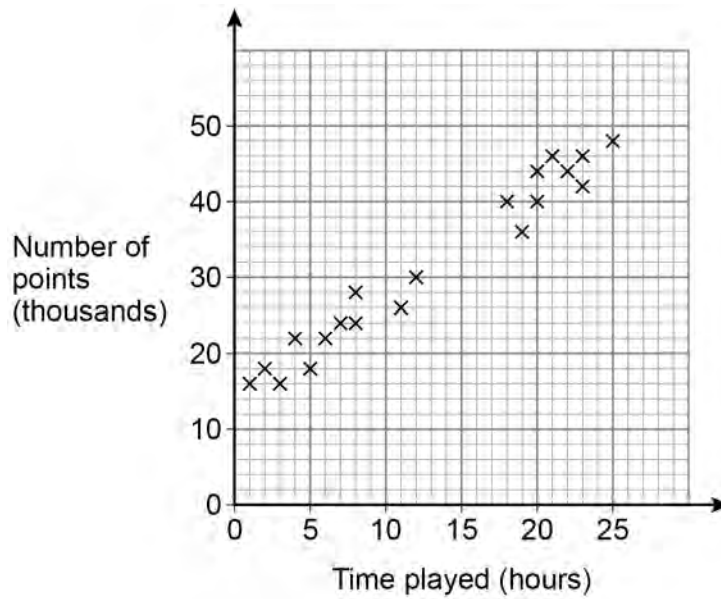


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20

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]

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Answer \_\_\_\_\_



21

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

Work out the value of  $a$ .

You **must** show your working.

**[3 marks]**

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

22

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

**[2 marks]**

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

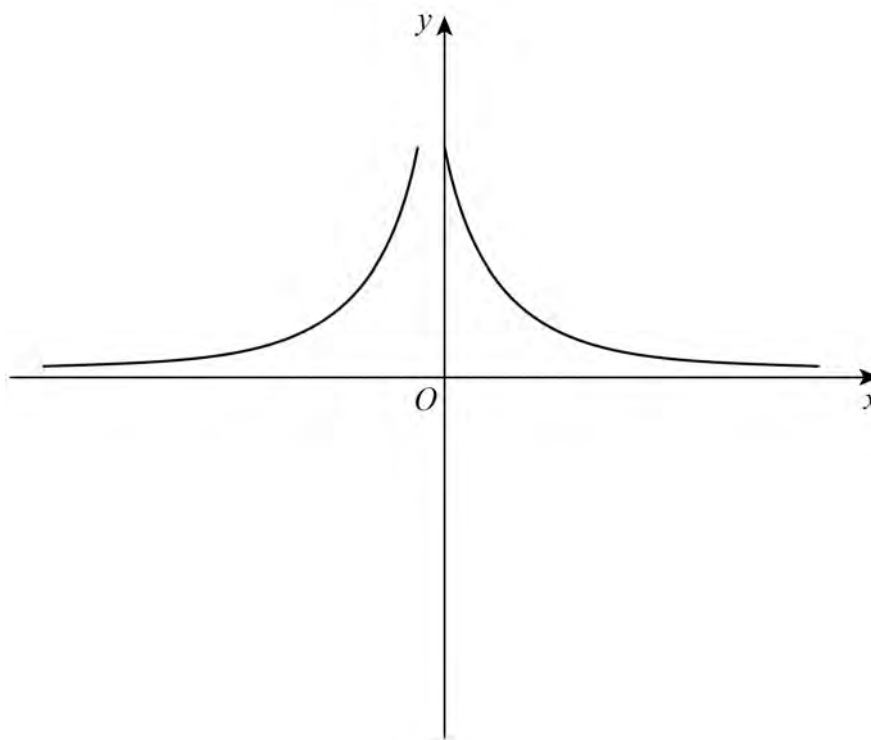
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9

**Turn over ►**

23

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

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

[2 marks]

Criticism 1 \_\_\_\_\_

\_\_\_\_\_

Criticism 2 \_\_\_\_\_

\_\_\_\_\_



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**24**

Sunita is  $x$  years old.  
Beth is one year younger than Sunita.  
Joel is double Sunita's age.

The mean of their ages is 5

How old is **Joel**?

**[5 marks]**

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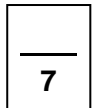
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Answer \_\_\_\_\_

**Turn over for the next question**



Turn over ►



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25

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

Give your answer as a mixed number.

[4 marks]

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Answer \_\_\_\_\_

END OF QUESTIONS

4



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2 8



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