



**Surname** \_\_\_\_\_

**Forename(s)** \_\_\_\_\_

**Centre Number** \_\_\_\_\_

**Candidate Number** \_\_\_\_\_

**Candidate Signature** \_\_\_\_\_

**I declare this is my own work.**

**GCSE**

**MATHEMATICS**

**F**

**Foundation Tier Paper 1 Non-Calculator**

**8300/1F**

**Friday 19 May 2023 Morning**

**Time allowed: 1 hour 30 minutes**

**At the top of the page, write your surname and forename(s), your centre number, your candidate number and add your signature.**

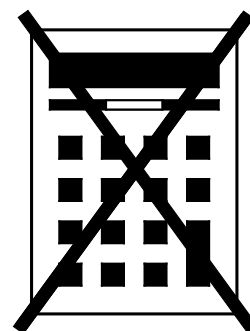
**[Turn over]**



## **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.**
- **Answer ALL questions.**
- **You must answer the questions in the  
spaces provided. Do not write 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.**

**DO NOT TURN OVER UNTIL TOLD TO DO SO**



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

**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 ÷  
smallest number in the list  
[1 mark]**

\_\_\_\_\_  
\_\_\_\_\_

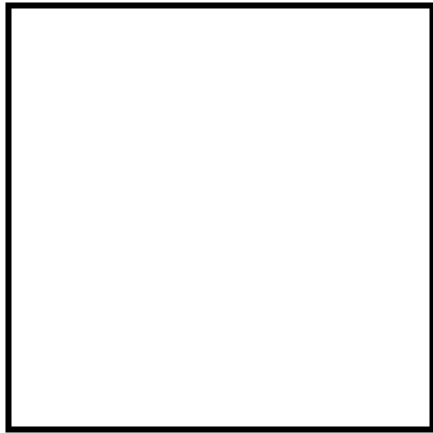
**Answer**

\_\_\_\_\_

**[Turn over]**



**2(a) Here is a square.**

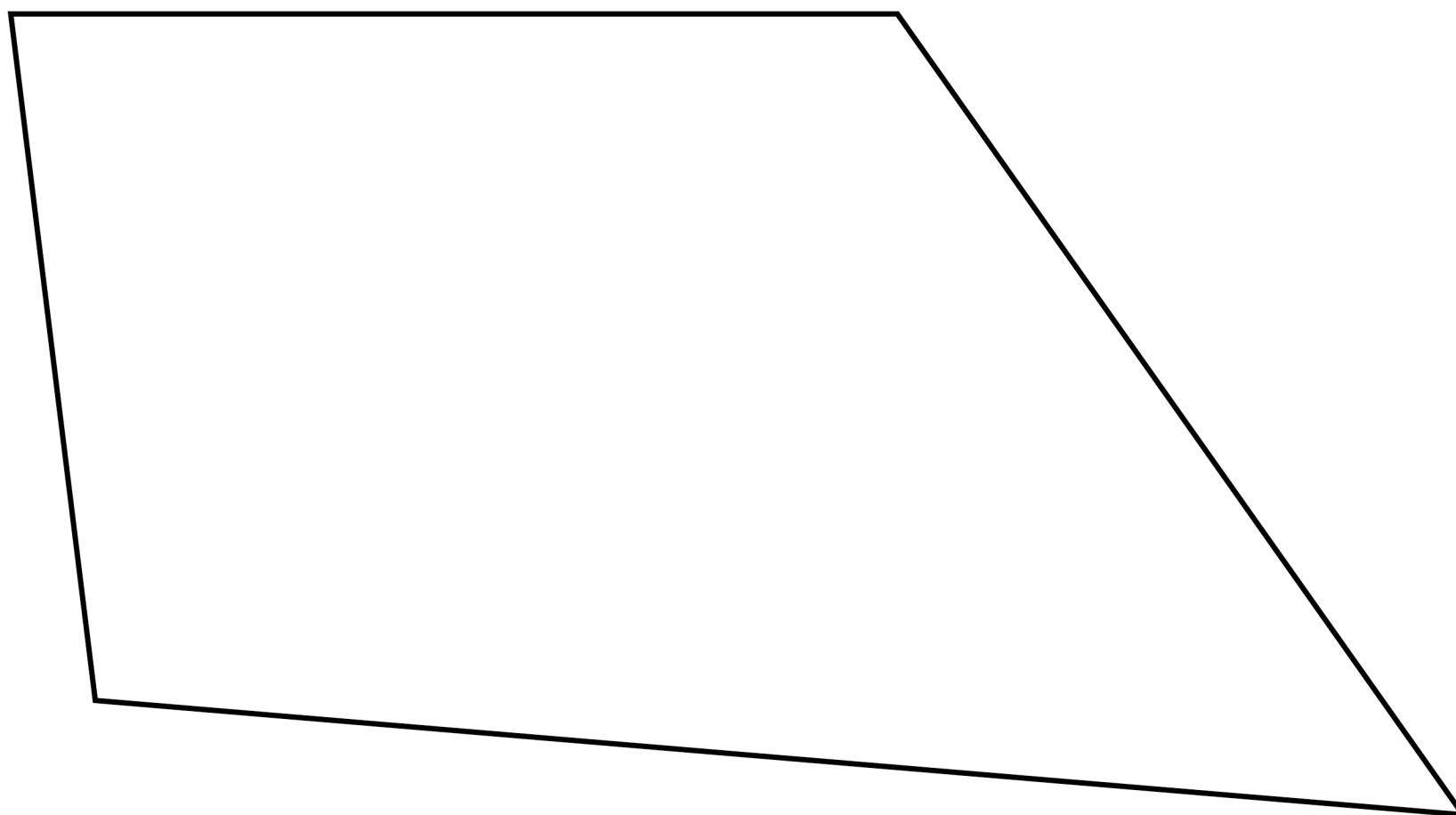


**Use a ruler to measure a side length of the square.**

**Give your answer in  
MILLIMETRES. [1 mark]**

**Answer** \_\_\_\_\_ **mm**

**2 (b) Here is a quadrilateral.**



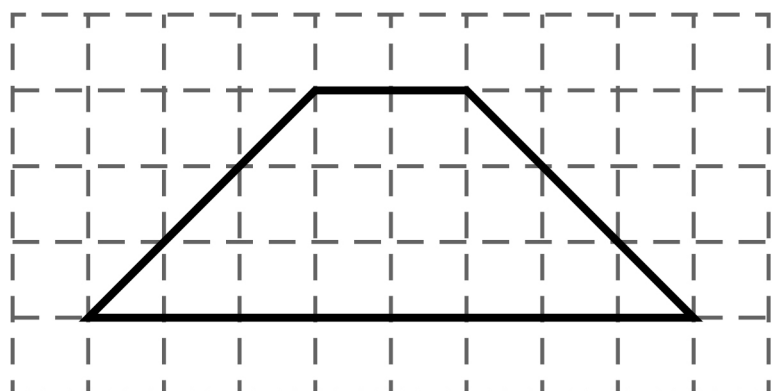
**Use a protractor to measure the size of the SMALLEST angle.**

**[1 mark]**

**Answer** \_\_\_\_\_ °

**[Turn over]**

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

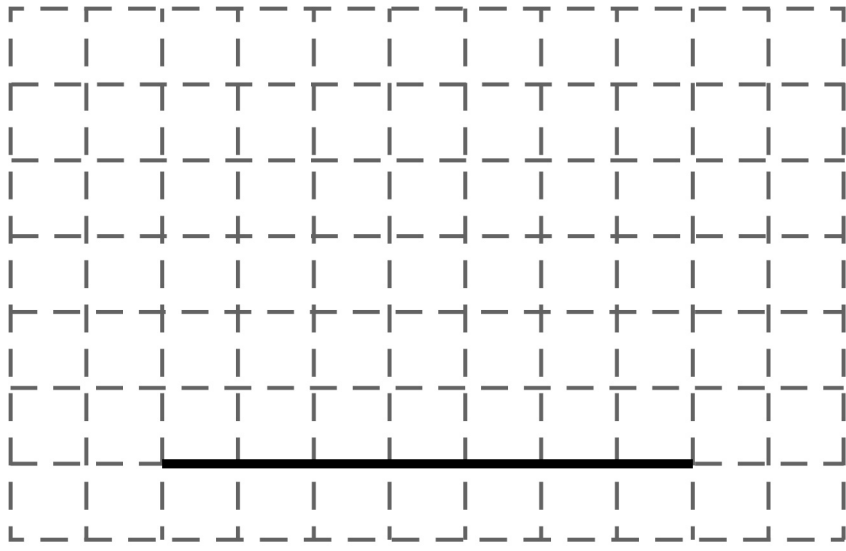


**By counting squares, work out the AREA of the quadrilateral.**  
**[1 mark]**

**Answer** \_\_\_\_\_ **cm<sup>2</sup>**



**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]**

4

**3 (a)    Work out  $(-4) \times (-3)$     [1 mark]**

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**Answer** \_\_\_\_\_

**3 (b)    Work out  $6 \times (-5)$     [1 mark]**

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**Answer** \_\_\_\_\_

**3 (c)    Work out  $(-8)^2$     [1 mark]**

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**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** \_\_\_\_\_

**[Turn over]**



**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]**



[illegible]

**Answer £** \_\_\_\_\_

**[Turn over]**

# 10



**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** \_\_\_\_\_

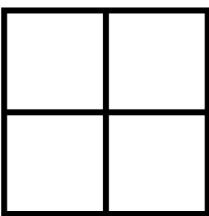
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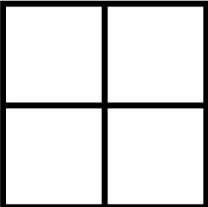
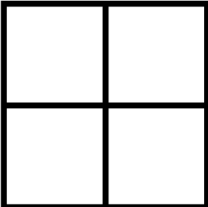
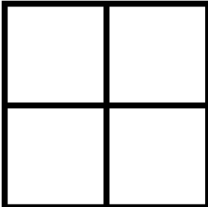
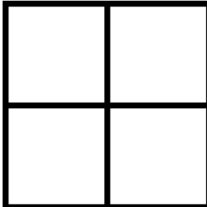
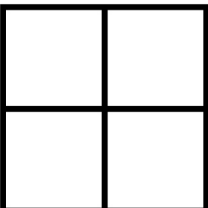
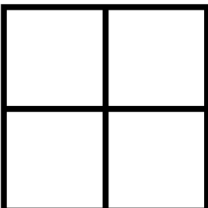
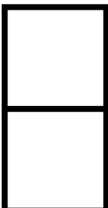
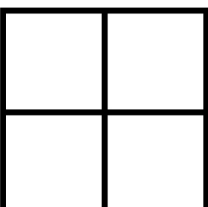
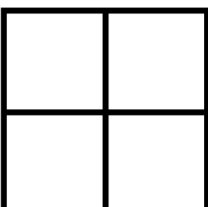
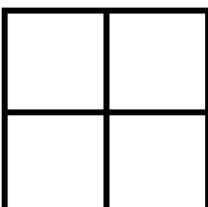
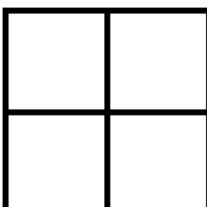
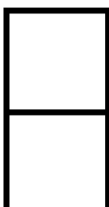
**[Turn over]**



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]**

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**[Turn over]**

6

**8**       $T = 5P - W$

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

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$T =$  

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**8(b) Work out the value of  $P$  when  $T = -40$  and  $W = 10$  [3 marks]**

$P =$  \_\_\_\_\_

**[Turn over]**



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

8



**10** Here are two calculations, A and B.

<b>A</b>	<b><math>8 \times 3 + 2</math></b>
<b>B</b>	<b><math>21 - (15 - 4)</math></b>

**Work out    answer to A  $\times$  answer to B**  
**[3 marks]**

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**Answer** \_\_\_\_\_

**[Turn over]**



**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.**

<b>OCTOBER</b>	<b>NOVEMBER</b>
<b>£120</b>	<b>£240</b>

**Write down the percentage increase from October to November.**

**[1 mark]**

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

**[Turn over]**



**13 Students choose juice with their school meal in the ratio**

**orange : apple : lime = 5 : 2 : 3**

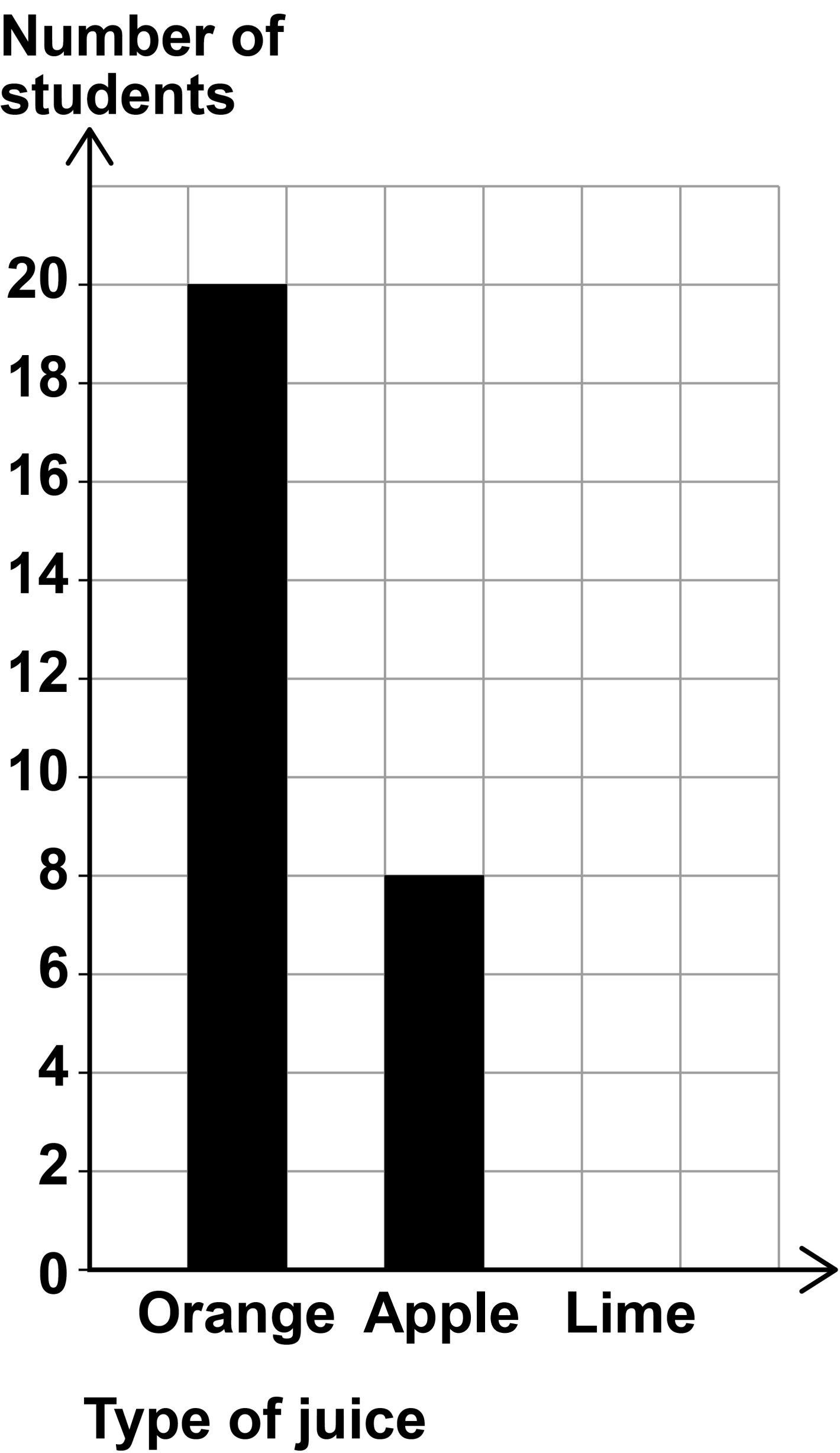
**On the opposite page, complete the bar chart. [3 marks]**

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**[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** \_\_\_\_\_

\_\_\_\_\_

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**Comparison 3** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

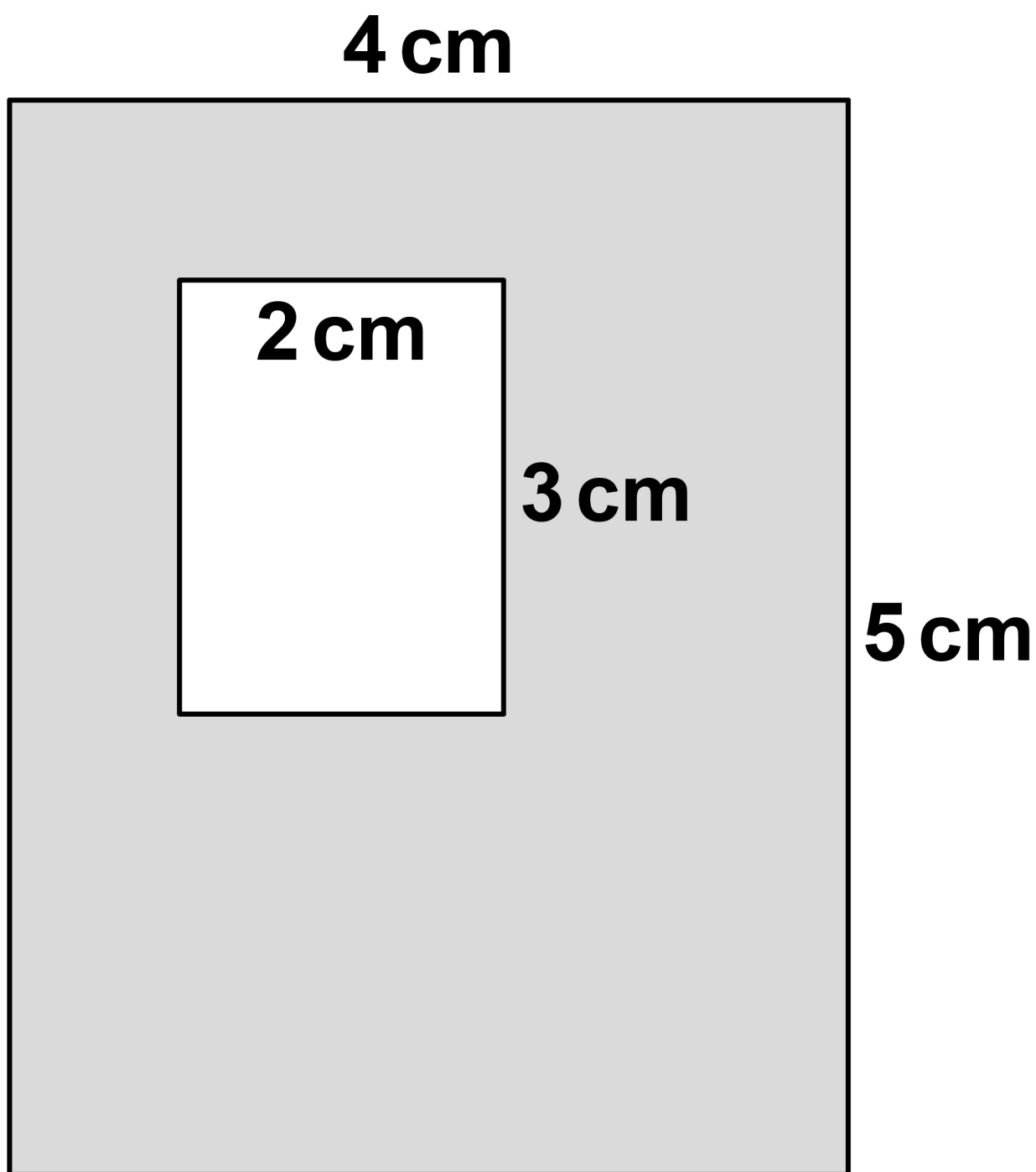
\_\_\_\_\_

**[Turn over]**



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

**The diagram is not drawn accurately.**



**Work out the percentage of the large rectangle that is shaded. [3 marks]**

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

**[Turn over]**



16 Liz travels 18 miles in 20 minutes.

Work out her average speed in miles per hour. [3 marks]

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

9

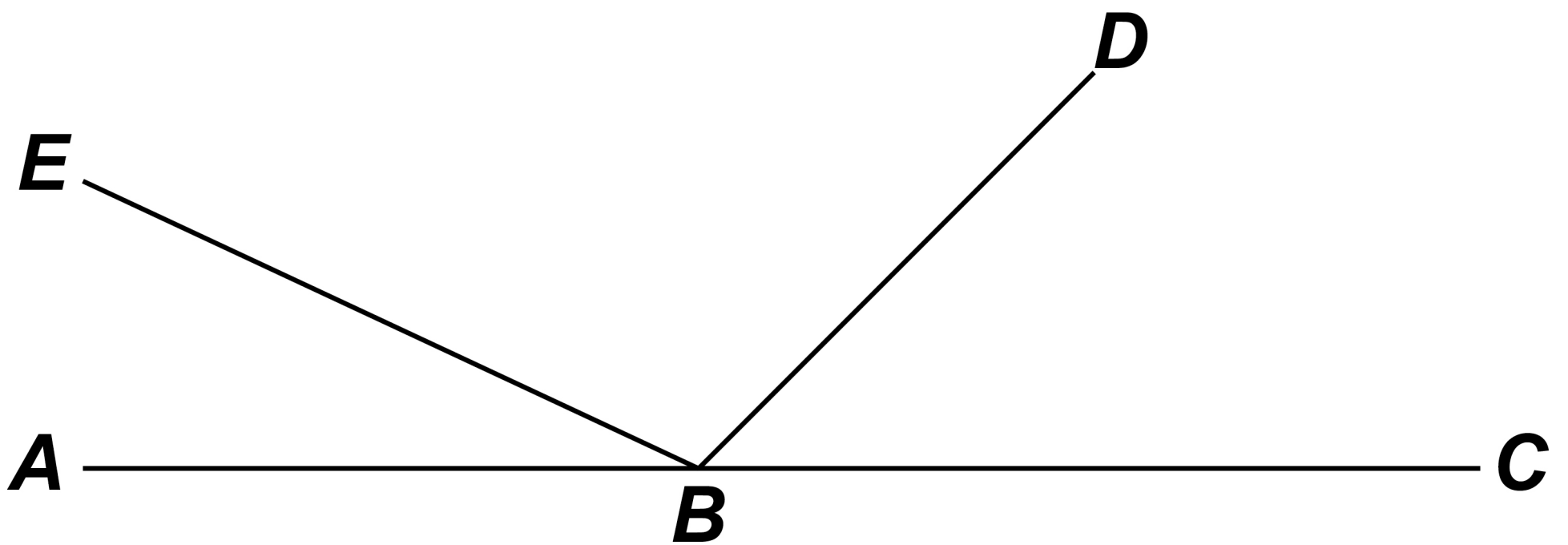
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**[Turn over]**



**17** *ABC*, *BD* and *BE* are straight lines.

The diagram is not drawn accurately.



angle *EBD* =  $5 \times$  angle *ABE*

angle *DBC* =  $3 \times$  angle *ABE*

Work out the size of angle *EBD*.  
[3 marks]

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**Answer** \_\_\_\_\_ °

**[Turn over]**



**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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**[Turn over]**



**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 £** \_\_\_\_\_

**[Turn over]**

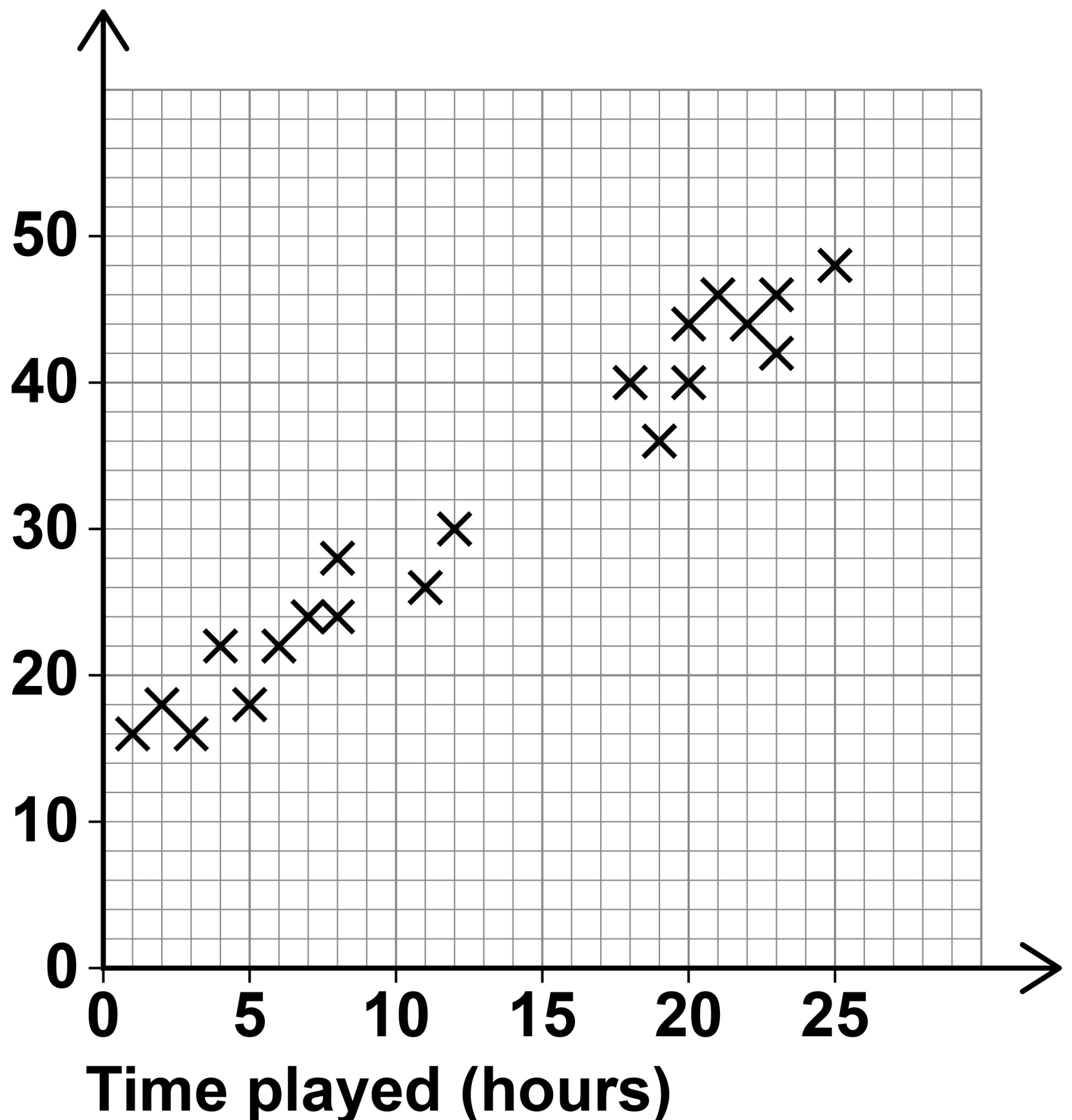
<hr/>
<b>10</b>



## 20 Players score points in a game.

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

Number of  
points (thousands)



**20 (a) Circle the strength and type of correlation shown. [1 mark]**

**weak positive**

**strong positive**

**weak negative**

**strong negative**

**[Turn over]**



**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, on page 38, 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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$a =$  \_\_\_\_\_

[Turn over]



**22 Expand and simplify fully**  
 **$5(3x + 4) - 2(x - 1)$  [2 marks]**

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**Answer** \_\_\_\_\_

9

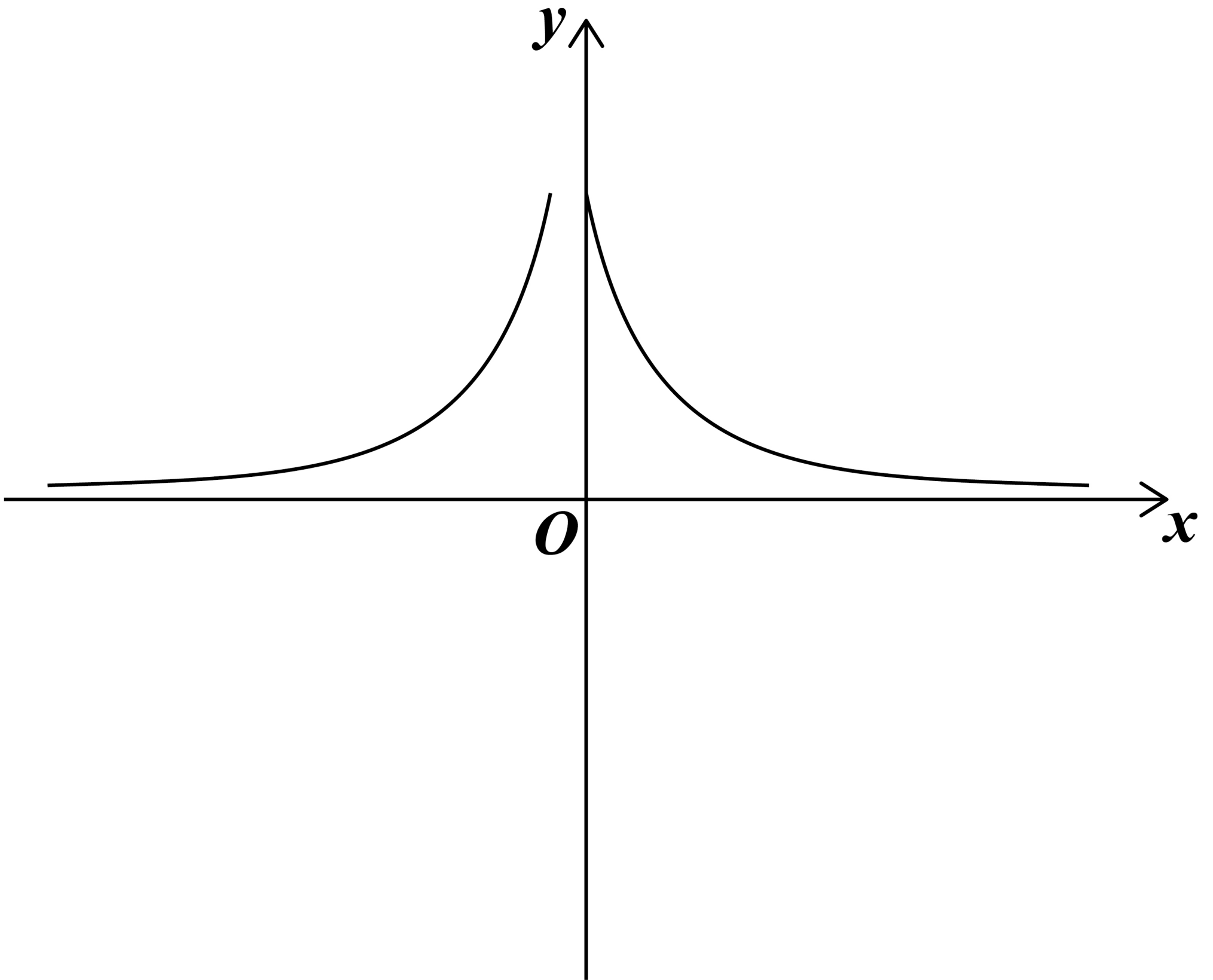


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**[Turn over]**



**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** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**[Turn over]**

**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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Answer \_\_\_\_\_

[Turn over]



**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

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4



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


**Additional page, if required.**

**Write the question numbers in the left-hand margin.**

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For Examiner's Use	
Pages	Mark
4–5	
6–9	
10–13	
14–17	
18–20	
21–25	
26–30	
32–37	
38–42	
44–47	
48–49	
TOTAL	

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