Write your name here

Surname	Other names

Pearson Edexcel
Level 1/Level 2 GCSE (9-1)

Centre Number | | | | | |

Candidate Number | | | | |

Mathematics

Paper 3 (Calculator)

Aiming for Grade 5

Foundation Tier

Spring 2024 Practice Paper
45 marks 45 minutes

Paper Reference
1MA1/3F

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may be used.**
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is 43. There are 14 questions.
- Questions have been broadly arranged in an ascending order of mean difficulty, as found by students achieving Grade 5 in the Summer and November 2023 examinations.
- Questions marked with an asterisk (*) also appear on the Higher Tier paper.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Answer all questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 The table shows the number of books read by four people in one month.

Person	Number of books
Ximena	7
Martha	9
Kezia	1
Tabby	5

(*a*) Work out the median number of books.

.....

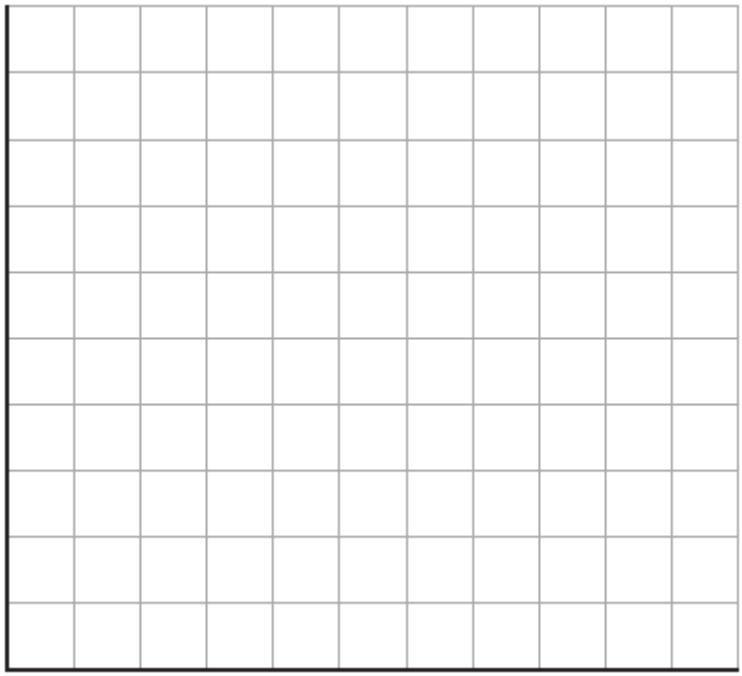
(2)

(*b*) Find the range.

.....

(1)

(*c*) On the grid, draw a bar chart to show the information in the table.

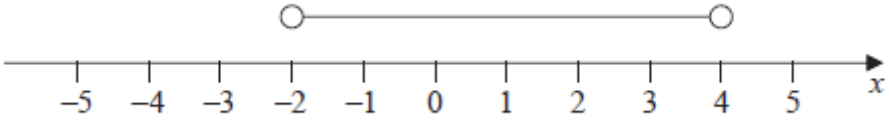


(3)

(Total for Question 1 is 6 marks)

***2** Jenna is asked to show the inequality $-3 < x \leq 4$ on a number line.

Here is her answer.



(*a*) Write down two mistakes Jenna has made.

1.....

.....

2.....

.....

(2)

(*b*) Work out the greatest integer that satisfies the inequality

$$5y - 7 < 16$$

.....

(2)

(Total for Question 2 is 4 marks)

***3** Lava flows from a volcano at a constant rate of 11.9 m^3/s

How many days does it take for 67 205 600 m^3 of lava to flow from the volcano?
Give your answer correct to the nearest day.

..... days

(Total for Question 3 is 3 marks)

4 Jenny invests £3000 for 6 years at y% simple interest per year.

At the end of the 6 years, Jenny has received a total of £450 in interest.

Work out the value of y.

y = ...

(Total for Question 4 is 3 marks)

---

5 120 boxes cost £6
270 bags cost £10

A bag is cheaper than a box.

How much cheaper?
Give your answer in pence correct to 1 decimal place.

.....p

(Total for Question 5 is 4 marks)

***6** Seija works at a weather station.
The table gives information about the temperature, T °C, at midday for each of 50 cities in the UK on Tuesday.

Temperature (T °C)	**Frequency**
$10 < T \leq 15$	2
$15 < T \leq 20$	8
$20 < T \leq 25$	13
$25 < T \leq 30$	21
$30 < T \leq 35$	6

(*a*) Calculate an estimate for the mean temperature.

.....°C
(3)

Seija says,

> "The median temperature is 22.5 °C because 22.5 is the middle number in the middle group."

(*b*) Is Seija correct?
Give a reason for your answer.

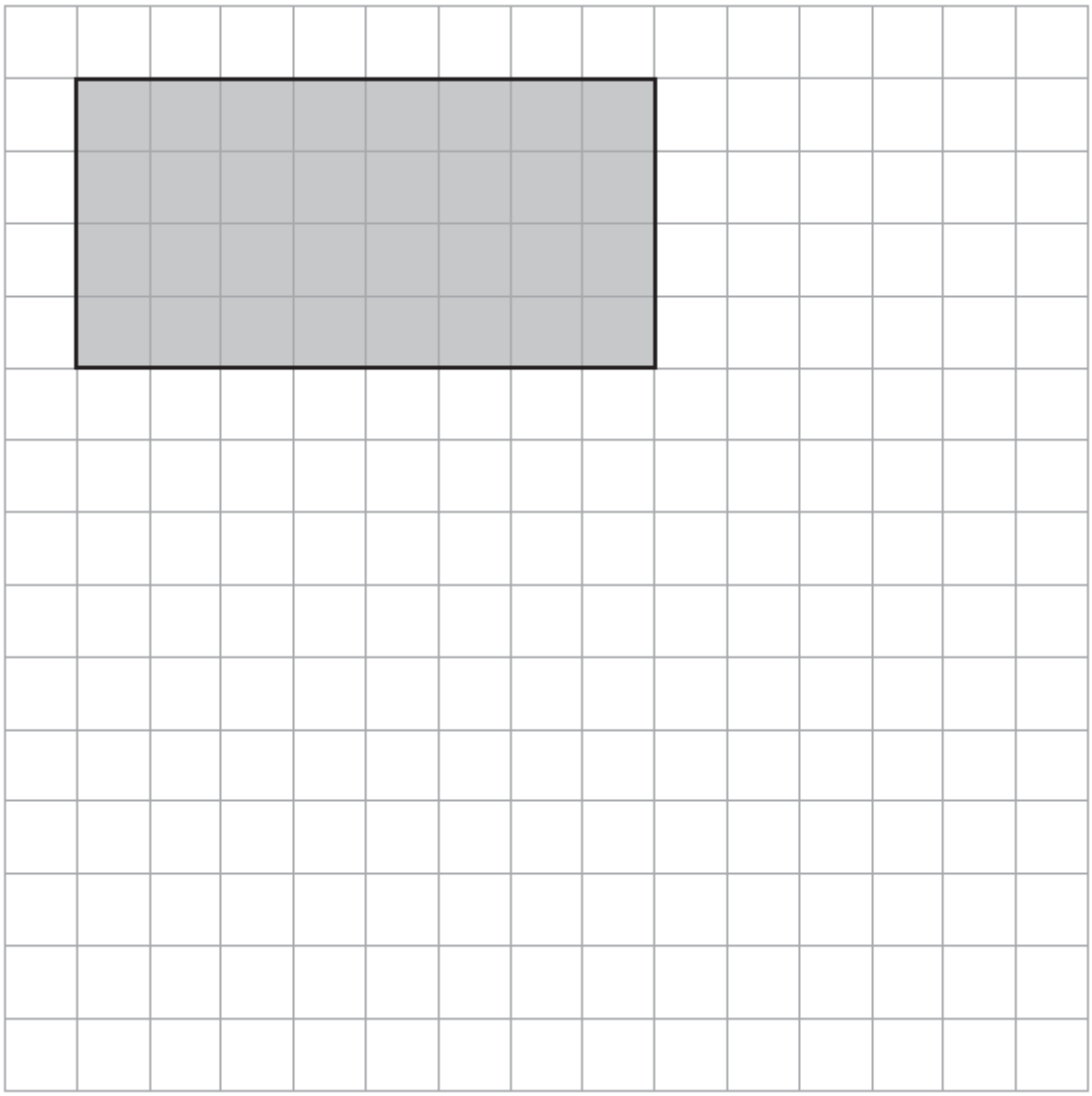
.....

.....

.....
(1)

(Total for Question 6 is 4 marks)

7 The front elevation of a cuboid is shown on the centimetre grid below.

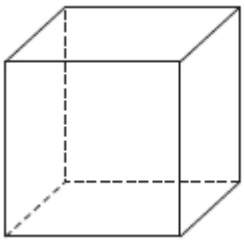


The volume of the cuboid is 224 cm^3

On the grid, draw the plan of the cuboid.

(Total for Question 7 is 3 marks)

***8** The diagram shows a solid cube placed on a horizontal table.



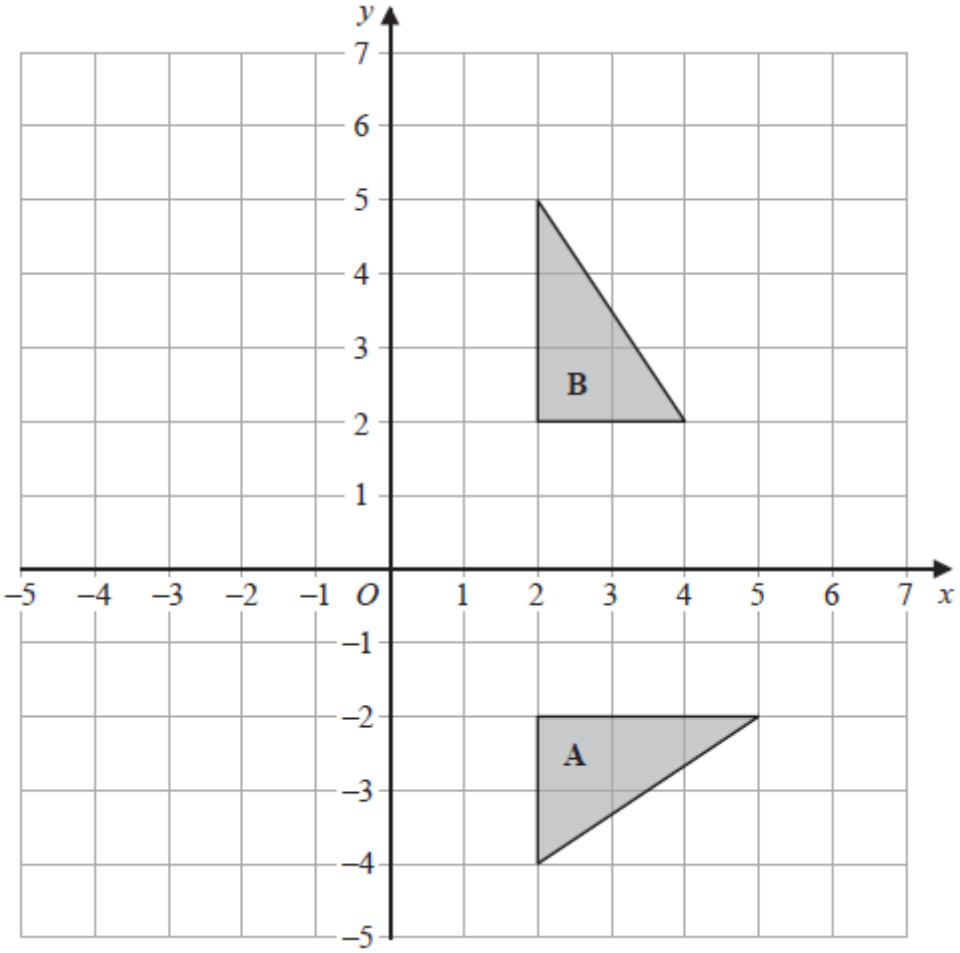
$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

The pressure on the table due to the cube is 3.5 newtons/cm^2
The force exerted by the cube on the table is 504 newtons.

Show that the total surface area of the cube is less than 900 cm^2

(Total for Question 8 is 3 marks)

9



Describe fully the single transformation that maps shape **A** onto shape **B**.

.....

.....

.....

(Total for Question 9 is 2 marks)

***10** A and B are numbers such that

$$A = 2^2 \times 3^4 \times 7$$
$$B = 3^2 \times 7^2$$

(a) Find the highest common factor (HCF) of A and B.

.....

(1)

(b) Find the lowest common multiple (LCM) of A and B.

.....

(2)

(Total for Question 10 is 3 marks)

***11** It takes 14 hours for 5 identical pumps to fill a water tank.

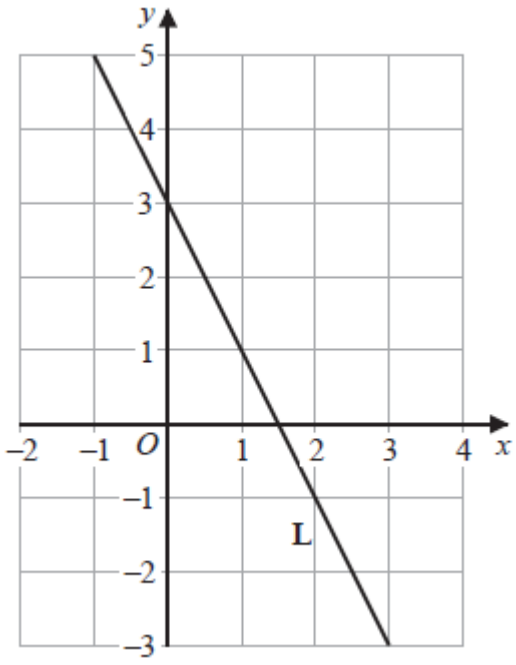
How many hours would it take 4 of these pumps to fill another water tank of the same size?

..... hours

(Total for Question 11 is 2 marks)

***12** The line **L** is shown on the grid.

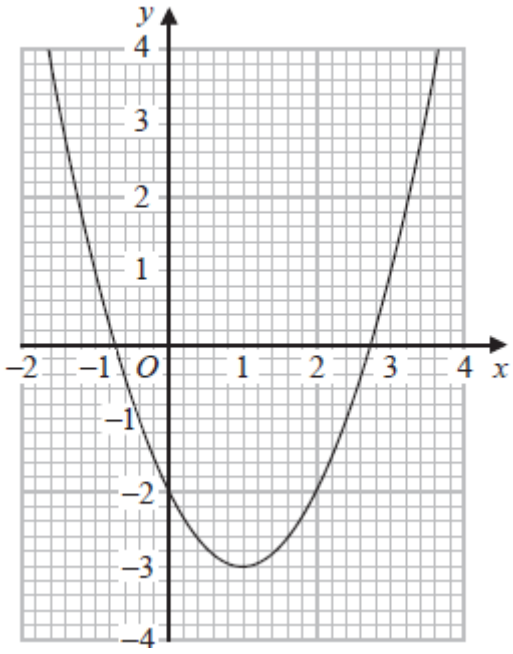
Find an equation for **L**.



.....

(Total for Question 12 is 3 marks)

***13** Here is the graph of $y = x^2 - 2x - 2$

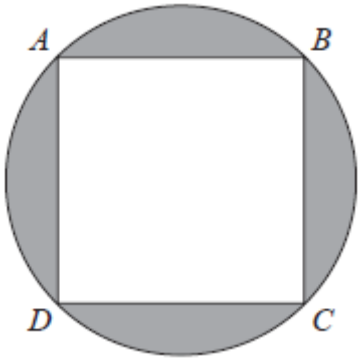


Write down an estimate for one of the roots of $x^2 - 2x - 2 = 0$

.....

(Total for Question 13 is 1 mark)

14 *A*, *B*, *C* and *D* are points on a circle such that *ABCD* is a square.



The square *ABCD* has sides of length 3.5 cm.

Calculate the circumference of the circle.
Give your answer correct to 1 decimal place.
You must show all your working.

..... cm

(Total for Question 14 is 4 marks)

TOTAL FOR PAPER IS 45 MARKS