

Write your name here	
Surname	Other names
Pearson Edexcel	Centre Number
Level 1/Level 2 GCSE (9-1)	Candidate Number
Mathematics Paper 1 (Non-Calculator)	
Aiming for Grade 5	Foundation Tier
Spring 2024 Practice Paper 46 marks 45 minutes	Paper Reference 1MA1/1F
You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. 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 not be used.**



Information

- The total mark for this paper is 46. There are 16 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** Mano has three shelves of books.

There are x books on shelf **A**.

There are $(3x + 1)$ books on shelf **B**.

There are $(2x - 5)$ books on shelf **C**.

There is a total of 44 books on the three shelves.

All the books have the same mass.

The books on shelf **B** have a total mass of 7500 g.

Work out the total mass of the books on shelf **A**.

..... g

(Total for Question 1 is 5 marks)

- *2 The mean length of 5 sticks is 4.2 cm.
 Nawal measured the length of one of the sticks as 7 cm.
 (a) Work out the mean length of the other 4 sticks.

..... cm
 (3)

Nawal made a mistake.
 The stick was not 7 cm long.
 It was 17 cm long.

- (b) How does this affect your answer to part (a)?

.....

 (1)

(Total for Question 2 is 4 marks)

- 3 (a) Expand and simplify $(3x + 2)(2x - 5)$

.....
 (2)

- (b) Factorise $x^2 - 16$

.....
 (1)

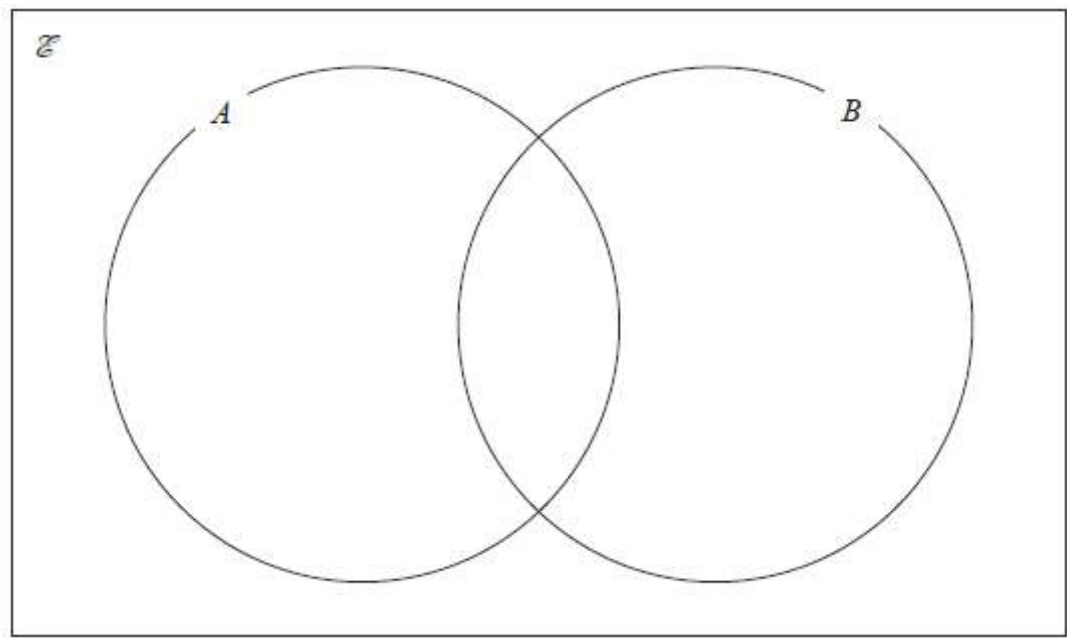
(Total for Question 3 is 3 marks)

*4 $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$A = \{\text{odd numbers}\}$

$B = \{\text{square numbers}\}$

(a) Complete the Venn diagram for this information.



(3)

A number is chosen at random from the universal set $\mathcal{E}$

(b) Find the probability that this number is in the set B'

.....

(2)

(Total for Question 4 is 5 marks)

*5 (i) Write down the value of 5^0

.....

(1)

(ii) Write down the value of 5^{-2}

.....

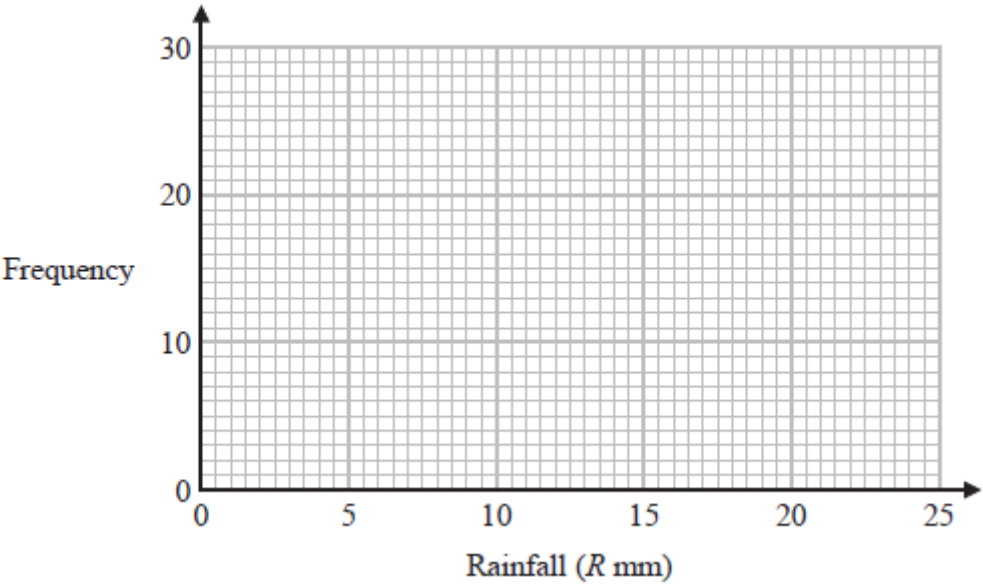
(1)

(Total for Question 5 is 2 marks)

***6** The table shows information about the daily rainfall in a town for 60 days.

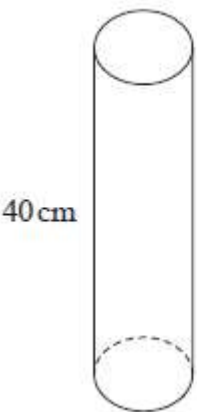
Rainfall (R mm)	Frequency
$0 \leq R < 5$	8
$5 \leq R < 10$	24
$10 \leq R < 15$	13
$15 \leq R < 20$	11
$20 \leq R < 25$	4

Draw a frequency polygon for this information.



(Total for Question 6 is 2 marks)

***7** The diagram shows a solid cylinder on a horizontal floor.



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

The cylinder has a
 volume of 1200 cm³
 height of 40 cm.

The cylinder exerts a force of 90 newtons on the floor.
 Work out the pressure on the floor due to the cylinder.

..... newtons/cm²

(Total for Question 7 is 3 marks)

***8** Work out 8.46 ÷ 0.15

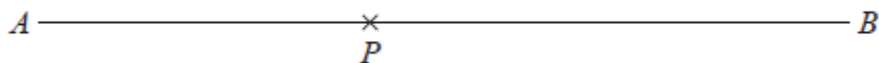
.....

(Total for Question 8 is 3 marks)

- 9 Work out an estimate for $\frac{5.7 \times 8.2}{0.26}$

.....
(Total for Question 9 is 3 marks)

- *10 The point P lies on the line AB .
Use ruler and compasses to construct an angle of 90° at P .
You must show all your construction lines.

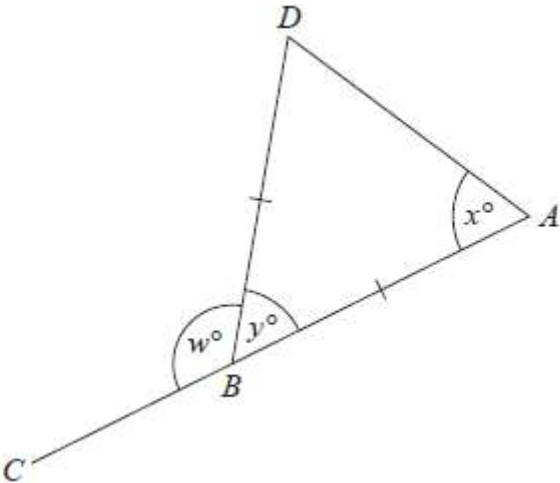


(Total for Question 10 is 2 marks)

***11** A cube has a total surface area of 150 cm^2
 Work out the volume of the cube.

..... cm^3
(Total for Question 11 is 4 marks)

***12** The diagram shows an isosceles triangle ABD and the straight line ABC .



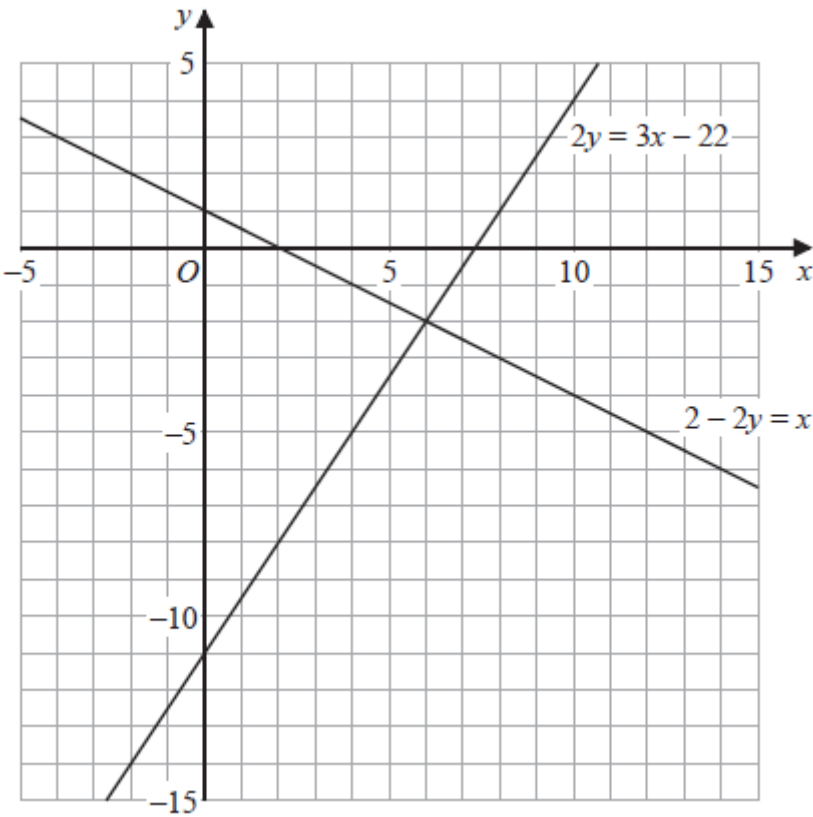
$BA = BD$
 $x : y = 2 : 1$
 Work out the value of w .

$w =$
(Total for Question 12 is 4 marks)

13 Work out the value of $\frac{4^{-6} \times 4^9}{4}$

.....
(Total for Question 13 is 2 marks)

*14



Use these graphs to solve the simultaneous equations

$$\begin{aligned} 2 - 2y &= x \\ 2y &= 3x - 22 \end{aligned}$$

$x =$

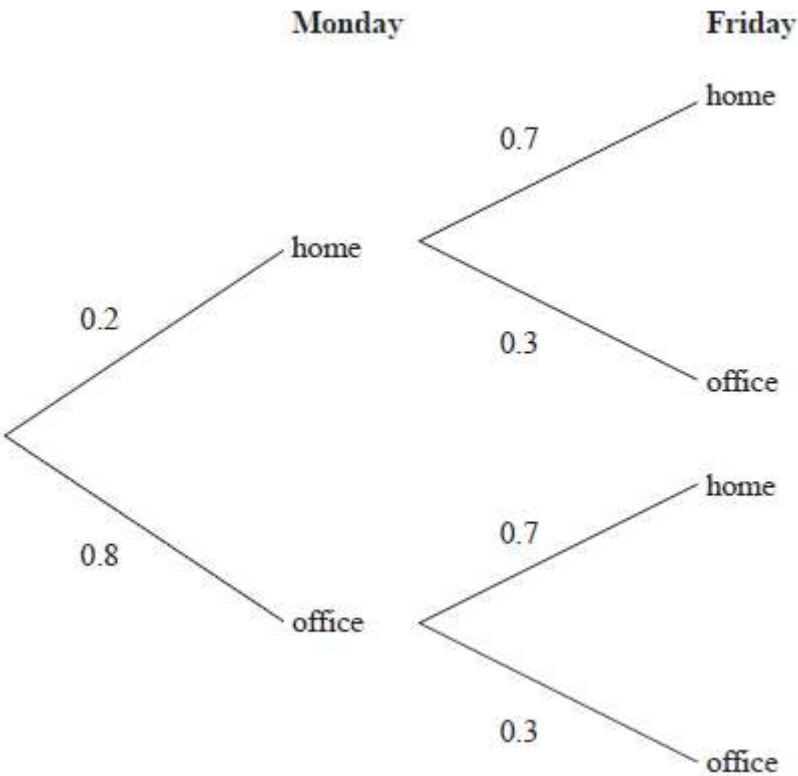
$y =$

(Total for Question 14 is 1 mark)

15 Write down the exact value of $\cos 60^\circ$

.....
(Total for Question 15 is 1 mark)

16 The probability tree diagram shows the probabilities that Shayla will work at home or will work at the office on two days next week.



Work out the probability that Shayla will work at home on Monday and work at the office on Friday.

.....

(Total for Question 16 is 2 marks)

TOTAL FOR PAPER IS 46 MARKS