

Please check the examination details below before entering your candidate information

Candidate surname		Other names	
Centre Number		Candidate Number	

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

Aiming for Grade 6

Paper reference	1MA1/1H
-----------------	----------------

Mathematics
PAPER 1 (Non-Calculator)
Higher Tier
 32 marks 30 minutes



You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, Formulae Sheet (enclosed). 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 32. There are 9 questions.
- Questions have been broadly arranged in an ascending order of mean difficulty, as found by students achieving Grade 6 in the Summer and November 2023 examinations.
- Questions marked with an asterisk (*) also appear on the Foundation 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** Write down the value of 5^{-2}

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

- *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 Work out the value of $27^{\frac{2}{3}} + \left(\frac{1}{2}\right)^{-3}$

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

- *4 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 4 is 5 marks)

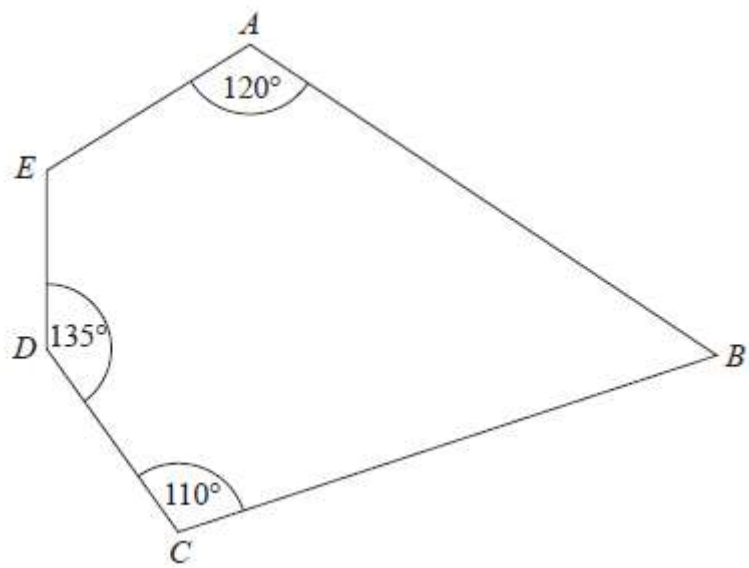
- *5** A cube has a total surface area of 150 cm^2
Work out the volume of the cube.

..... cm^3
(Total for Question 5 is 4 marks)

- 6** y is directly proportional to x .
 $y = 24$ when $x = 1.5$
Work out the value of y when $x = 5$

$y =$
(Total for Question 6 is 3 marks)

7 Here is a pentagon.



Angle $AED = 4 \times \text{angle } ABC$

Work out the size of angle AED .
You must show all your working.

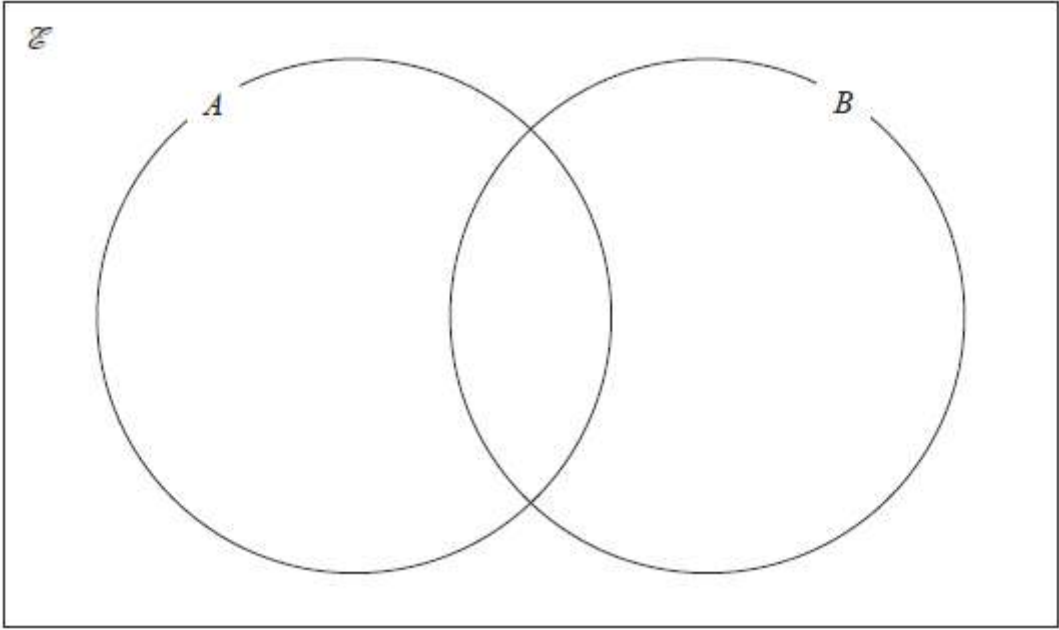
.....°
(Total for Question 7 is 4 marks)

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

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

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

(a) Complete the Venn diagram for this information.



(3)

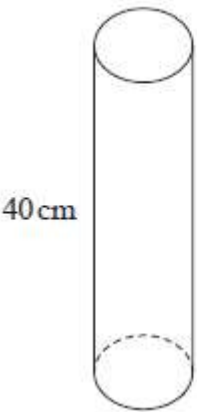
A number is chosen at random from the universal set $\mathcal{E}$

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

(2)

(Total for Question 8 is 5 marks)

***9** 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 9 is 3 marks)

TOTAL FOR PAPER IS 32 MARKS