

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 5

Paper reference	1MA1/3H
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Mathematics

PAPER 3 (Calculator)

Higher Tier

31 marks 30 minutes



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

Information

- The total mark for this paper is 31. There are 12 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** Jonny wants to know how much coffee he will need for 800 people at a meeting.

Each person who drinks coffee will drink 2 cups of coffee.

10.6 g of coffee is needed for each cup of coffee.

Jonny assumes 68% of the people will drink coffee.

(a) Using this assumption, work out the amount of coffee Jonny needs.

Give your answer correct to the nearest gram.

..... g
(4)

Jonny's assumption is wrong.

72% of the people will drink coffee.

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

.....
.....
.....

(1)
(Total for Question 1 is 5 marks)

***2** (a) Simplify $(m^2)^3$

.....
(1)

(b) Simplify $x^5 \times x^8$

.....
(1)

(c) Expand $4p(p^2 + 3p)$

.....
(2)
(Total for Question 2 is 4 marks)

***3** (a) Write 468 000 in standard form.

.....
(1)

(b) Write 5.037×10^{-4} as an ordinary number.

.....
(1)
(Total for Question 3 is 2 marks)

***4** Ali buys packs of balloons and boxes of pencils.

There are 30 balloons in each pack.

There are 24 pencils in each box.

Ali buys exactly the same number of balloons and pencils.

Work out how many packs of balloons and how many boxes of pencils she could have bought.

You must show all your working.

..... packs of balloons

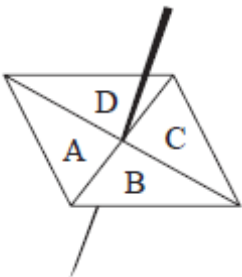
..... boxes of pencils

(Total for Question 4 is 3 marks)

***5** Here is a biased spinner.

The table shows the probabilities that when the spinner is spun it will land on A, on B, on C and on D.

Letter	A	B	C	D
Probability	0.4	0.21	0.32	0.07



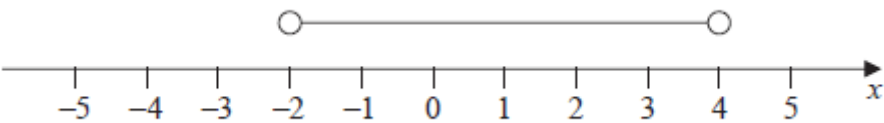
Luka will spin the spinner 200 times.

Work out an estimate for the number of times the spinner will land on A.

.....

(Total for Question 5 is 2 marks)

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

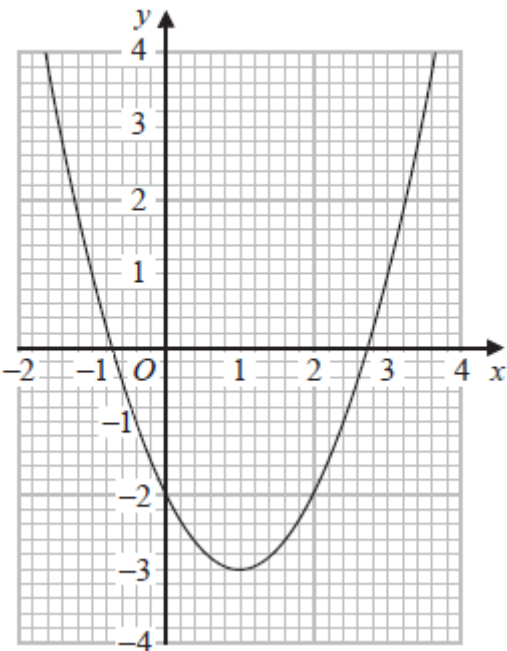


(a) Write down two mistakes Jenna has made.

- 1.....
-
- 2.....
-

(Total for Question 6 is 2 marks)

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



Write down the coordinates of the turning point on the graph of $y = x^2 - 2x - 2$

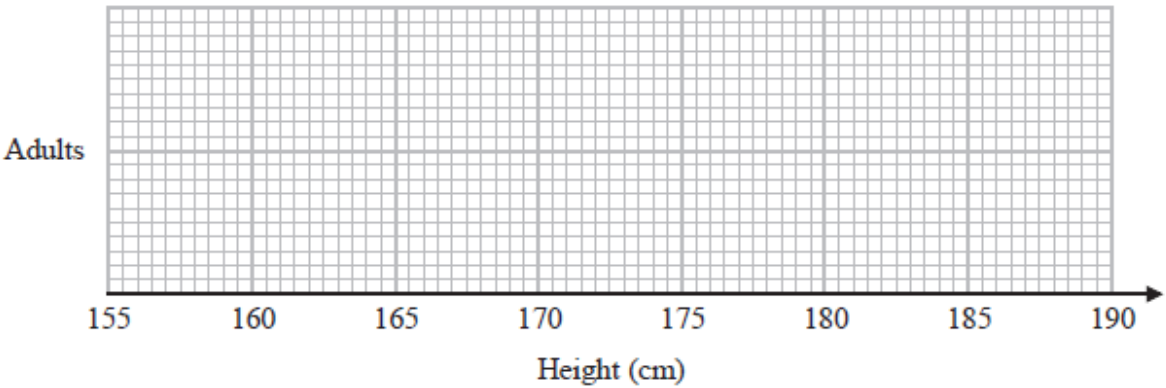
(..... ,)

(Total for Question 7 is 1 mark)

8 The table shows some information about the heights of a group of adults.

least height	169 cm
greatest height	186 cm
median	177 cm
lower quartile	174 cm
upper quartile	180 cm

On the grid, draw a box plot for the information in the table.



(Total for Question 8 is 3 marks)

*9 A solid cuboid is made of metal.
The metal has a density of 9 g/cm^3
The volume of the cuboid is 72 cm^3
Work out the mass of the cuboid.

..... g
(Total for Question 9 is 2 marks)

***10** Riley travelled by car and by aeroplane.

He travelled 143 miles by car at an average speed of 55 miles per hour.

Riley then travelled for 5 hours and 20 minutes by aeroplane.

Work out, in hours and minutes, Riley’s total travelling time.

..... hours minutes

(Total for Question 10 is 3 marks)

11 Some people were asked if they wanted a new television.

70% of the people said yes.

80% of the people who said yes wanted a television with a large screen.

What percentage of the people asked said they wanted a television with a large screen?

.....%

(Total for Question 11 is 2 marks)

- *12** A company orders a large number of plates from a factory.
It would take 30 hours to make all the plates using 4 machines.
How many machines are needed to make all the plates in 6 hours?

.....
(Total for Question 12 is 2 marks)

TOTAL FOR PAPER IS 31 MARKS