

Paper Reference 4MA1/1F
Pearson Edexcel
International GCSE

Total Marks

Mathematics A
PAPER 1F
Foundation Tier
(Calculator)

Time: 2 hours plus your additional time allowance

In the boxes below, write your name, centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

YOU MUST HAVE

Ruler, protractor, compasses, writing and drawing equipment, calculator. Tracing paper may be used.

YOU WILL BE GIVEN

**Diagram Booklet
Formulae Pages**

Turn over

INSTRUCTIONS

Answer ALL questions.

Without sufficient working, correct answers may be awarded no marks.

Answer the questions in the spaces provided in this Question Paper or on the separate diagrams – there may be more space than you need.

CALCULATORS MAY BE USED.

You must NOT write anything on the Formulae Pages. Anything you write on the Formulae Pages will gain NO credit.

Turn over

INFORMATION

The total mark for this paper is 100

The marks for EACH question are shown in brackets – use this as a guide as to how much time to spend on each question.

You may be provided with a shape for Question 15(a)

There may be spare copies of some diagrams in case you need them.

ADVICE

Read each question carefully before you start to answer it.

Check your answers if you have time at the end.

Answer ALL TWENTY FIVE questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1. Look at the table for Question 1 in the Diagram Booklet.**

It shows the average annual rainfall, in mm, for each of five countries.

- (a) Write the number 2051 in words.
(1 mark)**

(continued on the next page)

1. continued.

**(b) Write the number 1668 correct
to the nearest hundred.**

(1 mark)

(continued on the next page)

Turn over

1. continued.

The average annual rainfall for Colombia is more than the average annual rainfall for Brazil.

(c) How much more?

(1 mark)

_____ **mm**

(continued on the next page)

Turn over

1. continued.

**The average annual rainfall for
Nigeria was 283 mm more than the
average annual rainfall for France.**

**(d) Work out the average annual
rainfall for Nigeria.**

(1 mark)

_____ mm

(Total for Question 1 is 4 marks)

Turn over

2. Look at the diagram for Question 2 in the Diagram Booklet.

It shows a pictogram with information about the number of text messages Colin sent on each of four days last week.

**(a) How many text messages did Colin send on Tuesday?
(1 mark)**

(continued on the next page)

Turn over

2. continued.

- (b) Work out the total number of text messages that Colin sent on the four days from Monday to Thursday last week.**
- (2 marks)**

(continued on the next page)

Turn over

2. continued.

On Friday, Colin sent 26 text messages.

**(c) Show this information
on the pictogram in the
Diagram Booklet.**

(1 mark)

(Total for Question 2 is 4 marks)

3. Look at the diagram for Question 3(a) in the Diagram Booklet.

It shows a rectangle made from squares.

**(a) Shade 0.7 of the rectangle.
(1 mark)**

(continued on the next page)

3. continued.

**(b) Write down the value of the 2 in
the number 3·289**

(1 mark)

(continued on the next page)

Turn over

3. continued.

(c) Write $\frac{5}{8}$ as a decimal.

(1 mark)

(continued on the next page)

Turn over

3. continued.

(d) Write the five numbers below in order of size.

Start with the smallest number.

(2 marks)

2.803 2.008 2.081 2.83 2.8

(Total for Question 3 is 5 marks)

Turn over

4. Look at the diagram for Question 4 in the Diagram Booklet.

It shows a 5-sided polygon.

(a) Measure the length of the side AB

Give the units of your answer.

(2 marks)

(continued on the next page)

Turn over

4. continued.

**(b) Measure the size of the angle
marked X**

(1 mark)



**(c) On the diagram in the
Diagram Booklet, mark with
arrows (>>) a pair of parallel
sides.**

(1 mark)

(continued on the next page)

Turn over

4. continued.

- (d) Write down the mathematical name of a 5-sided polygon.
(1 mark)**
- _____

(Total for Question 4 is 5 marks)

5. Angelina buys

3 packets of seeds at

\$2·45 each packet

2 bags of compost at

\$6·20 each bag

and 4 plant pots

**Each plant pot costs the same
amount of money.**

**Angelina paid a total of \$34·35 for
the seeds, compost and plant pots.**

**Work out the cost of each plant pot.
(4 marks)**

**Answer space is on the next two
pages.**

Turn over

5. continued.

Turn over

5. continued.

\$_____

(Total for Question 5 is 4 marks)

Turn over

6. Look at the table for Question 6 in the Diagram Booklet.

It shows an incomplete two-way table.

Bohai works in a shop that sells mobile phones.

Last week he sold one mobile phone to each of 300 customers.

(continued on the next page)

6. continued.

The incomplete two–way table in the Diagram Booklet shows some information about these mobile phones.

(a) Complete the two–way table in the Diagram Booklet.

There are six spaces to fill.

(3 marks)

(continued on the next page)

Turn over

6. continued.

**Bohai selects at random one of these
300 customers.**

**(b) Write down the probability that
this customer bought a type B,
64 GB mobile phone.**

(1 mark)

(continued on the next page)

Turn over

6. continued.

Bohai now selects at random one of the customers who bought a type **A phone last week.**

(c) Write down the probability that this customer bought a **128 GB mobile phone.**

(2 marks)

Answer space continues on the next page.

6. (c) continued.

(Total for Question 6 is 6 marks)

7. (a) Solve

$$5x = 30$$

(1 mark)

$$x = \underline{\hspace{10cm}}$$

(b) Solve

$$y - 7 = 12$$

(1 mark)

$$y = \underline{\hspace{10cm}}$$

(continued on the next page)

Turn over

7. continued.

(c) Simplify

$$t + t + t + t + t$$

(1 mark)

(continued on the next page)

Turn over

7. continued.

(d) Simplify

$$5p + 7q - 2p + 4q$$

(2 marks)

(Total for Question 7 is 5 marks)

Turn over

8. Mairi has a 2 metre length of string. She cuts from the string as many lengths of 35 centimetres as possible.

Work out the length of string that she has left.

Give your answer in centimetres.

(3 marks)

Answer space continues on the next page.

8. continued.

_____ **cm**

(Total for Question 8 is 3 marks)

Turn over

9. (a) Write $\frac{39}{150}$ as a percentage.

(1 mark)

_____ %

(continued on the next page)

9. continued.

There are 30 dogs staying in some boarding kennels.

12 of the dogs are brown.

(b) What fraction of the dogs in the boarding kennels are NOT brown?

Give your fraction in its simplest form.

(2 marks)

(continued on the next page)

Turn over

9. continued.

(c) Show that

$$\frac{4}{9} + \frac{1}{6} = \frac{11}{18}$$

(2 marks)

**Answer space continues on the
next page.**

9. (c) continued.

(Total for Question 9 is 5 marks)

Turn over

10. A circle has a DIAMETER of 14 cm

Calculate the area of the circle.

Give your answer correct to

3 significant figures.

_____ **cm²**

(Total for Question 10 is 2 marks)

Turn over

11. (a) Use your calculator to work out the value of

$$\frac{7 \cdot 45}{4 \cdot 3^2 - 2 \cdot 9}$$

Give your answer as a decimal.

Write down all the figures on your calculator display.

(2 marks)

(continued on the next page)

Turn over

11. continued.

- (b) Write your answer to part (a)
correct to 3 decimal places.
(1 mark)**
-

(Total for Question 11 is 3 marks)

12. Alisa, Jena and Mikael each pick cucumbers.

Alisa picks C cucumbers.

Jena picks 5 fewer cucumbers than Alisa.

Mikael picks twice as many cucumbers as Alisa.

The total number of cucumbers picked by Alisa, Jena and Mikael is T

(continued on the next page)

12. continued.

Find a formula for T in terms of C

Give your formula in its simplest form.

(3 marks)

Answer space continues on the next page.

Turn over

12. continued.

(Total for Question 12 is 3 marks)

Turn over

13. Look at the diagram for Question 13 in the Diagram Booklet.

It is NOT accurately drawn.

It shows a classroom wall in the shape of a trapezium, labelled ABCD

$AD = 2.5$ metres

$DC = 6.5$ metres

$CB = 3.5$ metres

Both marked angles are right angles.

Dion wants to paint the classroom wall completely twice.

He knows that each tin of paint will cover 12 m^2

(continued on the next page)

Turn over

13. continued.

He is going to have to buy all the paint he needs.

Work out the least number of tins of paint that Dion will need to buy.

Show your working clearly.

(4 marks)

Answer space continues on the next two pages.

13. continued.

Turn over

13. continued.

(Total for Question 13 is 4 marks)

Turn over

14. Look at the diagram for Question 14 in the Diagram Booklet.

It shows a grid.

**On the grid, draw the graph of
 $y = 2x - 3$ for values of x from
 -2 to 4**

(3 marks)

**Space for working continues on the
next page.**

14. continued.

(Total for Question 14 is 3 marks)

Turn over

15. Look at the diagram for Question 15(a) in the Diagram Booklet.

It shows shape *X* on a grid.

- (a) On the grid in the Diagram Booklet, rotate shape *X* 90° clockwise about *O***
- A cut out shape may be available if you wish to use it.**
- (2 marks)**

(continued on the next page)

15. continued.

**(b) Look at the diagram for
Question 15(b) in the
Diagram Booklet.**

It shows shape **A and shape **B**
on a grid.**

**Describe fully the single
transformation that maps
shape **A** onto shape **B**
(2 marks)**

(Total for Question 15 is 4 marks)

Turn over

16. (a) Simplify

$$m^7 \times m^4$$

(1 mark)

(continued on the next page)

Turn over

16. continued.

(b) Simplify

$$w^{15} \div w^3$$

(1 mark)

(continued on the next page)

Turn over

16. continued.

(c) Simplify

$$(8x^5y^3)^2$$

(2 marks)

(continued on the next page)

Turn over

16. continued.

(d) Make t the subject of

$$n = t^3 - 8v$$

(2 marks)

(Total for Question 16 is 6 marks)

Turn over

17. Danil, Gabriel and Hadley share some money in the ratios $3 : 5 : 9$

The difference between the amount of money that Gabriel receives and the amount of money that Hadley receives is 196 euros.

Work out the amount of money that Danil receives.

(3 marks)

Answer space continues on the next page.

17. continued.

_____ euros

(Total for Question 17 is 3 marks)

Turn over

18. Look at the diagram for Question 18 in the Diagram Booklet.

It is NOT accurately drawn.

It shows triangle ABC

$AC = 8.4 \text{ cm}$

angle $ACB = 65^\circ$

angle ABC is a right angle.

Work out the length of the side AB

Give your answer correct to

3 significant figures.

(3 marks)

Answer space continues on the next page.

18. continued.

_____ **cm**

(Total for Question 18 is 3 marks)

Turn over

- 19. Look at the information for Question 19 in the Diagram Booklet. It shows a price list.**
- Sarah makes and sells mugs.**
- One day she makes 150 mugs.**
- Her total cost for making these mugs is £1140**

Of these mugs

$\frac{2}{5}$ are small mugs

32% are medium mugs

and the rest are large mugs

(continued on the next page)

Turn over

19. continued.

Sarah's price list for selling each mug is shown in the Diagram Booklet.

Sarah sells all 150 mugs.

Work out her percentage profit.

Give your answer correct to the nearest whole number.

(5 marks)

Answer space continues on the next two pages.

19. continued.

Turn over

19. continued.

_____ %

(Total for Question 19 is 5 marks)

Turn over

20. Look at the diagram for Question 20(a) in the Diagram Booklet.

It shows Jenny's six cards.

Each card has a whole number written on it so that

the smallest number is 5

the largest number is 24

the median of the six numbers is 14

the mode of the six numbers is 8

(continued on the next page)

20. continued.

Jenny arranges her six cards so that the numbers are in order of size.

- (a) For the remaining four cards in the Diagram Booklet, write on each line a number that could be on the card.**

(3 marks)

Space for working continues on the next page.

Turn over

20. (a) continued.

(continued on the next page)

20. continued.

A basketball team plays 6 games.

After playing 5 games, the team has a mean score of 21 points per game.

After playing 6 games, the team has a mean score of 23 points per game.

**(b) Work out the number of points the team scored in its 6th game.
(3 marks)**

Answer space continues on the next page.

Turn over

20. (b) continued.

(Total for Question 20 is 6 marks)

Turn over

21. (a) Solve the inequality

$$5x - 7 \leq 2$$

(2 marks)

(continued on the next page)

Turn over

21. continued.

(b) (i) Factorise

$$y^2 - 2y - 35$$

(2 marks)

(continued on the next page)

Turn over

21. (b) continued.

(ii) Hence, solve

$$y^2 - 2y - 35 = 0$$

(1 mark)

(Total for Question 21 is 5 marks)

22. Look at the diagram for Question 22 in the Diagram Booklet.

It shows an incomplete Venn diagram.

$$\mathcal{E} = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$$

$$A \cap B = \{5, 10, 15\}$$

$$B' = \{7, 8, 9, 11, 12, 13, 14\}$$

$$A' = \{4, 6, 7, 8, 14\}$$

Complete the Venn diagram in the Diagram Booklet for this information.

(Total for Question 22 is 3 marks)

23. $t = 4.2 \times 10^{-24}$
 $u = 3 \times 10^{145}$

Work out the value of $t \times u$

Give your answer in standard form.

(Total for Question 23 is 2 marks)

Turn over

24. Look at the diagram for Question 24 in the Diagram Booklet.

It is NOT accurately drawn.

It shows isosceles triangle ABC

$$AB = AC = 17.5 \text{ cm}$$

$$BC = 28 \text{ cm}$$

Calculate the area of triangle ABC

(4 marks)

Answer space continues on the next two pages.

24. continued.

Turn over

24. continued.

_____ **cm²**

(Total for Question 24 is 4 marks)

Turn over

25. The straight line L has equation
 $2y + 7x = 10$

(a) Find the gradient of L
(2 marks)

(continued on the next page)

Turn over

25. continued.

(b) Find the coordinates of the point where L crosses the y -axis.

(1 mark)

Answer space continues on the next page.

25. (b) continued.

(_____ , _____)

(Total for Question 25 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

END OF PAPER
