

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 Book
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.

There may be spare copies of some diagrams.

You may be provided with a shape for Question 12(a)

Turn over

ADVICE

Read each question carefully before you start to answer it.

Check your answers if you have time at the end.

Good luck with your examination.

Answer all TWENTY FIVE questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

7

1.

8 9 17 35 48 80

**From the six numbers above, write
down**

**(a) a factor of 40
(1 mark)**

(continued on the next page)

Turn over

8

1. continued.

Remember:

8 9 17 35 48 80

**From the six numbers above, write
down**

**(b) a multiple of 7
(1 mark)**

(continued on the next page)

Turn over

1. continued.

Remember:

8 9 17 35 48 80

**From the six numbers above, write
down**

**(c) a prime number
(1 mark)**

(continued on the next page)

Turn over

10

1. continued.

Remember:

8 9 17 35 48 80

**From the six numbers above, write
down**

**(d) a square number
(1 mark)**

(continued on the next page)

Turn over

11

1. continued.

Remember:

8 9 17 35 48 80

From the six numbers above, write
down

(e) the two numbers with a
difference of 31
(1 mark)

_____ and _____

(Total for Question 1 is 5 marks)

Turn over

- 2. Look at the diagram for Question 2(a) in the Diagram Book.**

It shows part of a number line.

- (a) Write down the number marked with the arrow.**

(1 mark)

(continued on the next page)

Turn over

2. continued.

**Look at the diagram for Question 2(b)
in the Diagram Book.**

It shows a parcel on weighing scales.

The parcel weighs less than 6 kg

(b) How many kilograms less?

(1 mark)

_____ kilograms

(continued on the next page)

Turn over

2. continued.

(c) Change 7·6 metres into centimetres.

(1 mark)

_____ **centimetres**

(d) Change 91 600 millilitres into litres.

(1 mark)

_____ **litres**

(continued on the next page)

Turn over

2. continued.

Ivan goes to the gym at 7 15 pm

**(e) Write this time using the
24-hour clock.**

(1 mark)

(Total for Question 2 is 5 marks)

Turn over

16

- 3. Find the number that is exactly halfway between $3\cdot 7$ and $6\cdot 1$**

(Total for Question 3 is 2 marks)

Turn over

4. (a) Simplify

$$3 \times 10m$$

(1 mark)

(b) Simplify

$$8n + n - 5n$$

(1 mark)

(continued on the next page)

Turn over

4. continued.

(c) Solve

$$6p = 42$$

(1 mark)

$$p = \underline{\hspace{4cm}}$$

(d) Solve

$$24 = 10 + q$$

(1 mark)

$$q = \underline{\hspace{4cm}}$$

(Total for Question 4 is 4 marks)

Turn over

5. (a) Write these five numbers in order of size.

Start with the smallest number.

2·08 2·13 2·7
2·0034 2·111

(1 mark)

(continued on the next page)

Turn over

5. continued.

**(b) Write 5.8394 correct to
2 decimal places.**

(1 mark)

(c) Write 0.73 as a fraction.

(1 mark)

(continued on the next page)

Turn over

5. continued.

- (d) Write down the value of the 6 in the number 0.067**
(1 mark)
-

- (e) Write 17% as a decimal.**
(1 mark)
-

(continued on the next page)

Turn over

5. continued.

Given that

70% of a number is 252

(f) work out the number.

(2 marks)

(Total for Question 5 is 7 marks)

Turn over

6. Janine has 2 litres of orange squash.

She also has some empty cups.

When full, each cup holds

300 millilitres of orange squash.

Janine fills as many cups as possible.

How much orange squash does

**Janine have left after filling as many
cups as possible?**

State the units of your answer.

(3 marks)

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

Turn over

6. continued.

(Total for Question 6 is 3 marks)

Turn over

- 7. Look at the diagram for Question 7 in the Diagram Book.**

It is NOT accurately drawn.

It shows a rectangle and a square.

The perimeter of the rectangle is equal to the perimeter of the square.

The area of the rectangle is less than the area of the square.

Work out by how much the area of the rectangle is less than the area of the square.

(4 marks)

Answer space is on the next page.

Turn over

7. continued.

_____ cm^2

(Total for Question 7 is 4 marks)

Turn over

- 8. Look at the diagram for Question 8 in the Diagram Book.**

Some students leaving a language school one day were each asked which language lesson they had just attended.

The table on the next page and the pie chart in the Diagram Book give some information about their answers.

8. continued.

Language	Frequency	Angle in pie chart
Italian	24	30°
French		95°
English		
Arabic	48	
Spanish	80	

(continued on the next page)

Turn over

8. continued.

**(a) Work out the number of students
who answered French.**

(2 marks)

(continued on the next page)

Turn over

8. continued.

**(b) Complete (i) the table and
(ii) the pie chart.**

**There are five spaces to fill in the
table.**

(3 marks)

(Total for Question 8 is 5 marks)

Turn over

- 9. In a shop, pens cost 34 cents each.**

The shop has a special offer on the pens as shown below.

Special offer

Pay for 2 pens and get 1 free

First pen 34 cents, second pen 34 cents, third pen free

Moritz wants 25 pens.

(continued on the next page)

Turn over

9. continued.

**Work out how much Moritz has to pay
for 25 pens.**

(3 marks)

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

Turn over

9. continued.

_____ **cents**

(Total for Question 9 is 3 marks)

Turn over

10. (a) Write these four fractions in order of size.

Start with the smallest fraction.

$$\frac{3}{8}$$

$$\frac{1}{4}$$

$$\frac{7}{20}$$

$$\frac{5}{16}$$

(2 marks)

(continued on the next page)

Turn over

10. continued.

There are only green beads and red beads in a bag.

The ratio of the number of green beads to the number of red beads is $5:9$

(b) What fraction of the beads in the bag are green beads?

(1 mark)

Answer space continues on the next page.

Turn over

10. (b) continued.

(Total for Question 10 is 3 marks)

Turn over

11. Look at the diagram for Question 11 in the Diagram Book.

It is NOT accurately drawn.

It shows a square ABCD and a regular pentagon CDEFG

The exterior angle BCG is marked x

Work out the size of the angle marked x

(3 marks)

Answer space continues on the next page.

11. continued.

○

(Total for Question 11 is 3 marks)

Turn over

**12. Look at the diagram for
Question 12(a) in the Diagram Book.
It shows a shaded shape on a grid.**

**(a) On the grid, reflect the shape in
the line with equation $x = 6$**

**A cut out shape may be available
if you wish to use it.**

(2 marks)

(continued on the next page)

12. continued.

**Look at the diagram for Question 12(b)
in the Diagram Book.**

**It shows triangle P and triangle Q
drawn on a grid.**

**(b) Describe fully the single
transformation that maps
triangle P onto triangle Q
(3 marks)**

(Total for Question 12 is 5 marks)

Turn over

13. Buses leave a bus station to go to the hospital every 16 minutes.

Buses leave the same bus station to go to the college every 20 minutes.

At 9 am a bus leaves the bus station to go to the hospital and at the same time a bus leaves the bus station to go to the college.

(continued on the next page)

13. continued.

Work out the next time that a bus leaves the bus station to go to the hospital and at the same time a bus leaves the bus station to go to the college.

(3 marks)

Answer space continues on the next page.

Turn over

13. continued.

(Total for Question 13 is 3 marks)

Turn over

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

It shows an incomplete Venn diagram.

$$\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$$

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

$$B = \{\text{multiples of 3}\}$$

Complete the Venn diagram for the sets \mathcal{E} , A and B

(Total for Question 14 is 3 marks)

Turn over

15. Look at the table for Question 15 in the Diagram Book.

It shows an incomplete two–way table.

150 students were each asked to name their favourite sport from hockey, rugby and football.

The two–way table in the Diagram Book gives information about the results.

(continued on the next page)

15. continued.

(a) Complete the two–way table.

There are six spaces to fill.

(3 marks)

(continued on the next page)

Turn over

15. continued.

- (b) Work out what percentage of the
150 students are in year 10
(2 marks)**

_____ %

(Total for Question 15 is 5 marks)

Turn over

16. A plane flew from Madrid to Dubai.

**The distance the plane flew was
5658 km**

**The flight time was
8 hours 12 minutes.**

**Work out the average speed of the
plane.**

(3 marks)

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

Turn over

16. continued.

_____ km/h

(Total for Question 16 is 3 marks)

Turn over

17. Here are the first 4 terms of an arithmetic sequence.

85

79

73

67

Find an expression, in terms of n , for the n th term of the sequence.

(2 marks)

Answer space continues on the next page.

17. continued.

(Total for Question 17 is 2 marks)

Turn over

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

It is NOT accurately drawn.

It shows the shape $ABCDE$

$$AB = x \text{ cm}$$

$$BC = 8 \text{ cm}$$

$$AE = 14 \text{ cm}$$

$$ED = 13 \text{ cm}$$

All the marked angles are right angles.

The area of the shape is $91 \cdot 8 \text{ cm}^2$

(continued on the next page)

Turn over

18. continued.

Work out the value of x

(4 marks)

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

Turn over

18. continued.

X = _____

(Total for Question 18 is 4 marks)

Turn over

- 19. On a farm there are chickens, ducks and pigs.**

The ratio of the number of chickens to the number of ducks is $7 : 2$

The ratio of the number of ducks to the number of pigs is $5 : 9$

There are 36 pigs on the farm.

Work out the number of chickens on the farm.

(3 marks)

Answer space continues on the next two pages.

19. continued.

Turn over

19. continued.

(Total for Question 19 is 3 marks)

Turn over

20. (a) Expand and simplify

$$3y(2y + 3) - y(3y + 5)$$

(2 marks)

(continued on the next page)

Turn over

20. continued.

(b) Make t the subject of the formula

$$\mathbf{p = mt - q}$$

(2 marks)

(continued on the next page)

Turn over

20. continued.

Given that

$$\frac{w^5 \times w^n}{w^3} = w^{10}$$

(c) work out the value of n
(2 marks)

$n =$ _____

(Total for Question 20 is 6 marks)

Turn over

21. Look at the diagram and the table for Question 21 in the Diagram Book.

Grace has a biased 5-sided spinner.

Grace is going to spin the arrow on the spinner once.

The table in the Diagram Book gives the probabilities that the spinner will land on red or on blue or on green.

The probability that the spinner will land on orange is 3 times the probability that the spinner will land on pink.

(continued on the next page)

Turn over

21. continued.

(a) Work out the probability that the spinner will land on orange.

(3 marks)

(continued on the next page)

Turn over

21. continued.

**Grace spins the arrow on the spinner
150 times.**

- (b) Work out an estimate for the
number of times the spinner
lands on blue.
(2 marks)**

(Total for Question 21 is 5 marks)

Turn over

22. (a) Look at the diagram for Question 22(a) in the Diagram Book.

It shows a number line.

Write down the inequality shown on the number line in the Diagram Book.

(1 mark)

(continued on the next page)

Turn over

22. continued.

y is an integer and

$$\mathbf{-4 \leq 2y < 6}$$

**(b) Write down all the possible
values of y
(2 marks)**

(continued on the next page)

Turn over

22. continued.

(c) Solve the inequality

$$7t - 3 \leq 2t + 31$$

Show your working clearly.

(2 marks)

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

Turn over

22. (c) continued.

(Total for Question 22 is 5 marks)

Turn over

23. Look at the table for Question 23 in the Diagram Book.

It shows the populations of four countries.

(a) Work out the difference between the population of China and the population of Germany.

Give your answer in standard form.

(2 marks)

Answer space continues on the next page.

Turn over

23. (a) continued.

(continued on the next page)

Turn over

23. continued.

Given that

population of Fiji =

$$\frac{1}{k} \times \text{population of Sweden}$$

(b) work out the value of k

**Give your answer correct to the
nearest whole number.**

(2 marks)

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

Turn over

23. (b) continued.

k = _____

(Total for Question 23 is 4 marks)

Turn over

24. (a) Factorise fully

$$25m^4n^7p + 45m^9n^3q$$

(2 marks)

(continued on the next page)

Turn over

24. continued.

(b) Solve

$$(2y + 5)^2 = (2y + 3)(2y - 1)$$

(3 marks)

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

Turn over

24. (b) continued.

$y =$ _____

(Total for Question 24 is 5 marks)

Turn over

75

25. Jethro has sat 5 tests.

**Each test was marked out of 100 and
Jethro's mean mark for the 5 tests
is 74**

**Jethro has to sit one more test that is
also to be marked out of 100**

**Jethro wants his mean mark for all
6 tests to be at least 77**

(continued on the next page)

Turn over

25. continued.

**Work out the least mark that Jethro
needs to get for the last test.**

(3 marks)

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

Turn over

25. continued.

(Total for Question 25 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

END OF PAPER
