Paper Reference 4MA1/1F
Pearson Edexcel
International GCSE

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	

V65912A

YOU MUST HAVE

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

YOU WILL BE GIVEN

Diagram Book
Formulae Pages

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.

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)

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.

1.

8   9   17   35   48   80

From the six numbers above, write down

(a)   a factor of 40

(1 mark)

_____

Turn over

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)

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)

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)

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)

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)

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)

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)

3. **Find the number that is exactly halfway between 3·7 and 6·1**

_____

(Total for Question 3 is 2 marks)

4. **(a)** **Simplify**

$$3 \times 10m$$

(1 mark)

_____

(b) **Simplify**

$$8n + n - 5n$$

(1 mark)

_____

(continued on the next page)

4. **continued.**

    (c) **Solve**

        6p = 42

        (1 mark)

        p = _____

    (d) **Solve**

        24 = 10 + q

        (1 mark)

        q = _____

(Total for Question 4 is 4 marks)

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)

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)

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)

5. continued.

Given that

70% of a number is **252**

(f) work out the number.

(2 marks)

_____

(Total for Question 5 is 7 marks)

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.

6.   continued.

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.

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)

8. continued.

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

(2 marks)

_____

(continued on the next page)

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)

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)

9. continued.

Work out how much Moritz has to pay

for **25** pens.

(3 marks)

Answer space continues on the next

page.

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.

$$\frac{3}{8} \qquad \frac{1}{4} \qquad \frac{7}{20} \qquad \frac{5}{16}$$

(2 marks)

_____

(continued on the next page)

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.

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)

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)

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.

13. continued.

_____

(Total for Question 13 is 3 marks)

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 = {even numbers}

B = {multiples of 3}

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

(Total for Question 14 is 3 marks)

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)

15. continued.

(b) Work out what percentage of the 150 students are in year 10

(2 marks)

_____%

(Total for Question 15 is 5 marks)

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.

16. continued.

_____ **km/h**

(Total for Question 16 is 3 marks)

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

85   79   73   67

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

(2 marks)

Answer space continues on the next page.

17. **continued.**

(Total for Question 17 is 2 marks)

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

   It is NOT accurately drawn.

   It shows the shape **ABCDE**

   AB = x cm

   BC = 8 cm

   AE = 14 cm

   ED = 13 cm

   All the marked angles are right angles.

   The area of the shape is **91·8 cm^2**

Turn over

18. **continued.**

Work out the value of X

(4 marks)

Answer space continues on the next page.

18. continued.

x = _____

(Total for Question 18 is 4 marks)

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.

19. continued.

_____

(Total for Question 19 is 3 marks)

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

$$p = mt - q$$

(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)

21. **continued.**

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

        (3 marks)

_____

(continued on the next page)

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)

_____

Turn over

22. continued.

y is an integer and

$$-4 \leq 2y < 6$$

(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.

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.

23. **(a)** **continued.**

_____

(continued on the next page)

23. **continued.**

Given that

population of Fiji =

$\dfrac{1}{k}$ **× 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.

23. (b) continued.

k = _____

(Total for Question 23 is 4 marks)

24. (a) Factorise fully

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

(2 marks)

_____

(continued on the next page)

24. **continued.**

(b) Solve

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

(3 marks)

Answer space continues on the next page.

24. (b) continued.

$y =$ _____

(Total for Question 24 is 5 marks)

Turn over

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)

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.

25. continued.

_____

(Total for Question 25 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

END OF PAPER