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	

Q65912A

Pearson

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)

_____

(continued on the next page)

1. continued.

Remember:

8   9   17   35   48   80

From the six numbers above, write down

(b) a multiple of 7

(1 mark)

_____

(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)

_____

(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)

   _____

   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

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)

_____

(b) **Write 5·8394 correct to 2 decimal places.**

(1 mark)

_____

(continued on the next page)

Turn over

5.   continued.

(c) Write $0 \cdot 73$ as a fraction.

(1 mark)

——————————————

(d) Write down the value of the **6** in the

number $0 \cdot 067$

(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.

_____ _____

(Total for Question 6 is 3 marks)

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 continues on the next page.

7. **continued.**

_____ **cm**^{2}

(Total for Question 7 is 4 marks)

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 below and the pie chart in the
     Diagram Book give some information about their
     answers.

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)

        _____

   (b) Complete (i) the table and (ii) the pie chart.
        There are five spaces to fill in the table.

        (3 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.

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)

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)

_____

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)

_____

(Total for Question 10 is 3 marks)

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**

_____ °

(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)

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.

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)

Turn over

14. Look at the diagram for Question 14 in the

Diagram Book.

It shows an incomplete Venn diagram.

$\mathscr{E}$ = {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 $\mathscr{E}$, 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.

(a) Complete the two−way table.

There are six spaces to fill

(3 marks)

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.

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.

_____

(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 cm

   BC = 8 cm

   AE = 14 cm

   ED = 13 cm

   All the marked angles are right angles.

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

   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 page.

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)

20. continued.

(b) Make **t** the subject of the formula

$$p = mt - q$$

(2 marks)

_____

(continued on the next page)

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)

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)

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)

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)

_____

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)

22. continued.

(c) Solve the inequality

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

Show your working clearly.

(2 marks)

_____

(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)

_____

(continued on the next page)

Turn over

23. **continued.**

Given that

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

(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.

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)

24. continued.

(b) Solve

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

(3 marks)

y = _____

(Total for Question 24 is 5 marks)

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**

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