

Paper Reference 4MA1/2F  
Pearson Edexcel  
International GCSE

Total Marks
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Mathematics A  
PAPER 2F  
Foundation Tier  
(Calculator)

Friday 10 November 2023 – Morning

Time: 2 hours

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**

**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.**

**You may be provided with models for Question 16  
They are NOT accurate.**

**You may be provided with a cutout shape for  
Question 19(a)  
It is accurate.**

**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.**

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**Answer ALL TWENTY SIX 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 gives information about the weight of sugar produced by each of five countries in one year.**

- (a) Write the number 28 149 in words.**

**(1 mark)**

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- (b) Which of these five countries produced the greatest weight of sugar?**

**(1 mark)**

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**(continued on the next page)**

1. continued.

(c) Write down the value of the 8 in the number  
**23 787**

(1 mark)

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(d) Write the number **15 745** correct to the nearest  
thousand.

(1 mark)

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(Total for Question 1 is 4 marks)

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

**It is an incomplete pictogram giving information about the number of parcels a company posted on each of four days last week.**

- (a) How many parcels were posted on Tuesday?  
(1 mark)**

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**24 parcels were posted on Friday.**

- (b) Show this information on the pictogram.  
(1 mark)**

**(continued on the next page)**

**2. continued.**

**More parcels were posted on Wednesday than on Monday.**

**(c) How many more?**

**(1 mark)**

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**(continued on the next page)**



**2. continued.**

**(d) Find the ratio**

**number of parcels posted on Monday : number  
of parcels posted on Thursday**

**Give your answer in its simplest form.**

**(2 marks)**

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**(Total for Question 2 is 5 marks)**

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3. (a) Write  $0.03$  as a fraction.  
(1 mark)

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- (b) Write  $0.9$  as a percentage.  
(1 mark)

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%

(continued on the next page)

**3. continued.**

**(c) Write these five decimals in order of size.**

**Start with the smallest decimal.**

**0·4      0·48      0·204      0·24      0·408**

**(1 mark)**

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**(continued on the next page)**

3. continued.

(d) Work out

$$0.93 + \frac{7}{10}$$

Give your answer as a decimal.

(1 mark)

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(Total for Question 3 is 4 marks)

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4. Barney went for 4 walks on Tuesday.

The lengths of the walks were

800 metres

2 kilometres

1.7 kilometres

x metres

The total length of the 4 walks was 6250 metres.

Work out the value of x

(3 marks)

Answer space continues on the next page.

4. continued.

**x =** \_\_\_\_\_

**(Total for Question 4 is 3 marks)**

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**5. There are 8 counters in a bag.**

**6 of these counters are orange.**

**The rest of the counters are purple.**

**Delilah takes at random a counter from the bag.**

**(i) Look at the diagram for Question 5(i) in the Diagram Booklet.**

**It is a probability scale.**

**On the probability scale, mark the probability that the counter is orange.**

**(ii) Look at the diagram for Question 5(ii) in the Diagram Booklet.**

**It is a probability scale.**

**On the probability scale, mark the probability that the counter is yellow.**

**(Total for Question 5 is 2 marks)**

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6. (a) Look at the diagram for Question 6(a) in the Diagram Booklet.

It is a grid.

On the grid, draw a right-angled triangle.

(1 mark)

- (b) Look at the diagram for Question 6(b) in the Diagram Booklet.

It is a grid.

1 square length on the grid represents 1 cm

On the grid, draw a rectangle with an area of  $20 \text{ cm}^2$

(2 marks)

(Total for Question 6 is 3 marks)

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7. (a) Write **4 30 pm** as a time in the **24–hour clock**.  
(1 mark)
- 

Look at the table for Question 7(b) in the  
Diagram Booklet.

It shows part of a bus timetable from Beetown to  
Pilton.

The bus should take more time to get from Beetown  
to Corthill than from Corthill to Pilton.

- (b) How much more time?

Give your answer in minutes.

(3 marks)

Answer space continues on the next page.

7. (b) continued.

\_\_\_\_\_ minutes

(Total for Question 7 is 4 marks)

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8. Look at the diagram for Question 8 in the Diagram Booklet.

It is NOT accurately drawn.

**ABCD** and **EFGH** are straight lines.

**KFBJ** and **MGCL** are parallel straight lines.

angle **ABJ** =  $125^\circ$

angle **BFG** =  $32^\circ$

angle **FGM** =  $x^\circ$

angle **LCD** =  $y^\circ$

- (a) Write down the value of **x**  
(1 mark)

**x** = \_\_\_\_\_

(continued on the next page)

8. continued.

- (b) (i) Work out the value of  $y$   
(2 marks)

$y =$  \_\_\_\_\_

- (ii) Give a reason for your answer to (b) (i)  
(1 mark)

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(Total for Question 8 is 4 marks)

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9. **3 kg** of carrots and **5 kg** of potatoes cost a total of **207 rand**.  
**2 kg** of the carrots cost **48 rand**.

**Work out the cost of 1 kg of potatoes.**

**(4 marks)**

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

9. continued.

\_\_\_\_\_ rand

(Total for Question 9 is 4 marks)

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10. Look at the diagram for Question 10(a) in the Diagram Booklet.

It is a number machine.

When the input is 7 the output is 60

(a) Work out the value of  $y$   
(2 marks)

$y =$  \_\_\_\_\_

(continued on the next page)

**10. continued.**

**Look at the diagram for Question 10(b) in the Diagram Booklet.**

**It is a different number machine.**

**The input is  $X$**

**(b) Write down an expression, in terms of  $X$ , for the output.**

**(2 marks)**

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**(Total for Question 10 is 4 marks)**

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**Turn over**



**11. Look at the diagram for Question 11 in the Diagram Booklet.**

**It is a graph that can be used to change between Australian dollars and euros.**

**(a) Use the graph to change**

**(i) 40 Australian dollars to euros**  
**(1 mark)**

\_\_\_\_\_ **euros**

**(ii) 35 euros to Australian dollars**  
**(1 mark)**

\_\_\_\_\_ **Australian dollars**

**(continued on the next page)**

11. continued.

Lachlan changes **400** Australian dollars to euros.

(b) Work out how many euros he should receive.

(2 marks)

\_\_\_\_\_ euros

(Total for Question 11 is 4 marks)

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12. (a) Expand  
 $y(y + 3)$   
(1 mark)
- 

- (b) Factorise  
 $8p + 10$   
(1 mark)
- 

(continued on the next page)

12. continued.

(c) Make  $t$  the subject of

$$x = tv - m$$

(2 marks)

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(continued on the next page)

**12. continued.**

**Janya thinks of a whole number.**

**She calls her whole number  $W$**

**Janya writes down this information about her whole number.**

$$w > 7 \quad \text{and} \quad w \leq 10$$

**(d) Write down the possible values of  $W$**   
**(2 marks)**

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**(Total for Question 12 is 6 marks)**

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13. Bella buys **150** football shirts for a total cost of **1800** dollars.

She gives **10%** of the shirts to the local football team.

Bella sells the rest of the shirts for  **$g$**  dollars each. She makes a total profit of **360** dollars.

Work out the value of  **$g$**   
(4 marks)

Answer space continues on the next two pages.

13. continued.

13. continued.

$g =$  \_\_\_\_\_

(Total for Question 13 is 4 marks)

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14. Work out the value of

$$\frac{5 \cdot 2^2 + 8 \cdot 7}{\sqrt{14 \cdot 5}}$$

Write down all the figures on your calculator display.

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(Total for Question 14 is 2 marks)

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- 15. Look at the information for Question 15 in the Diagram Booklet.**

**Yuan sells fudge in small bags and in large bags.**

**Work out which bag is the better value for money.**

**Show your working clearly.**

**(3 marks)**

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

**15. continued.**

**(Total for Question 15 is 3 marks)**

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**16. Look at the diagram for Question 16 in the Diagram Booklet.**

**You may be provided with two models.**

**They are NOT accurate.**

**The diagram shows a crate and a box.**

**Model 1 represents the crate.**

**Model 2 represents the box.**

**A crate is in the shape of a cuboid with inside lengths of 120 cm, 40 cm and  $h$  cm**

**The crate has a lid.**

**Micah has 48 boxes.**

**Each box is in the shape of a cube 20 cm by 20 cm by 20 cm**

**Micah wants to put all the boxes in the crate and shut the lid.**

**(continued on the next page)**

**16. continued.**

**Work out the least possible value of  $h$   
(4 marks)**

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

16. continued.

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(Total for Question 16 is 4 marks)

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**17. Look at the table for Question 17 in the Diagram Booklet.**

**It shows information about the lengths, in minutes, of 50 telephone calls.**

**(a) Write down the modal class.**

**(1 mark)**

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**(continued on the next page)**

**17. continued.**

**(b) Work out an estimate for the total length, in minutes, of these telephone calls.**

**(3 marks)**

\_\_\_\_\_ minutes

**(Total for Question 17 is 4 marks)**

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

It is NOT accurately drawn.

It shows triangle **ABC** and triangle **ECD**

**ACD** and **EBC** are straight lines.

$$AB = 10 \text{ cm}$$

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

$$EB = 5 \text{ cm}$$

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

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

Angle **ECD** is a right angle.

Work out the value of **w**

Give your answer correct to one decimal place.

(4 marks)

Answer space continues on the next two pages.

18. continued.

18. continued.

**W =** \_\_\_\_\_

(Total for Question 18 is 4 marks)

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19. (a) Look at the diagram for Question 19(a) in the Diagram Booklet.

It shows shape **T** on a grid.

Reflect shape **T** in the line  $y = x$

A cutout shape may be available if you wish to use it.

(2 marks)

- (b) Look at the diagram for Question 19(b) in the Diagram Booklet.

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

Describe fully the single transformation that maps triangle **A** onto triangle **B**

(3 marks)

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(Total for Question 19 is 5 marks)

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20. (a) Solve

$$\frac{2t + 5}{6} = 2t - 5$$

Show clear algebraic working.

(3 marks)

$t =$  \_\_\_\_\_

(continued on the next page)

20. continued.

(b) Simplify

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

(1 mark)

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(c) Simplify fully

$$(2m^3q^5)^4$$

(2 marks)

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(continued on the next page)

20. continued.

(d) Given that

$$\frac{y^5 \times y^n}{y^7} = y^{12}$$

work out the value of  $n$

(2 marks)

$n =$  \_\_\_\_\_

(Total for Question 20 is 8 marks)

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**21. Avril bakes a cake.**

**She uses flour, butter and sugar such that**

**weight of flour : weight of butter = 6 : 5**

**weight of butter : weight of sugar = 3 : 2**

**Avril uses 120 grams of sugar.**

**Work out the weight of flour Avril uses.**

**(3 marks)**

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



**21. continued.**

\_\_\_\_\_ grams

**(Total for Question 21 is 3 marks)**

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22. Show that

$$3\frac{3}{7} \div 2\frac{2}{3} = 1\frac{2}{7}$$

(3 marks)

Answer space continues on the next page.

**22. continued.**

**(Total for Question 22 is 3 marks)**

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**23. Hermione buys a boat for \$26 800**

**The value of the boat depreciates by 8% each year.**

**Work out the value of the boat at the end of 3 years.**

**Give your answer correct to the nearest dollar.**

**\$ \_\_\_\_\_**

**(Total for Question 23 is 3 marks)**

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**24. The mean number of goals scored by a hockey team in 8 matches is 6**

**The team plays 2 more matches and scores  $k$  goals in each match.**

**The mean number of goals scored by the hockey team in the 10 matches is 7**

**Work out the value of  $k$**

**(3 marks)**

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

24. continued.

$k =$  \_\_\_\_\_

(Total for Question 24 is 3 marks)

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25. A straight line passes through the points with coordinates  $(0, -3)$  and  $(2, 0)$

Find an equation of the line.

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(Total for Question 25 is 2 marks)

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26. Look at the diagram for Question 26 in the Diagram Booklet.

It is NOT accurately drawn.

It shows a hexagon **ABCDEF**

$$AB = 25 \text{ cm}$$

$$BC = (y + 2) \text{ cm}$$

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

$$EF = 7 \text{ cm}$$

$$AF = (y + 6) \text{ cm}$$

All the marked angles are right angles.

The area of hexagon **ABCDEF** is  $258 \text{ cm}^2$

Work out the value of **y**

(5 marks)

Answer space continues on the next page.



26. continued.

$y =$  \_\_\_\_\_

(Total for Question 26 is 5 marks)

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**TOTAL FOR PAPER IS 100 MARKS**

**END OF PAPER**

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