

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**

**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 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.**

**Turn over**

## 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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(continued on the next page)

**1. continued.**

**(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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**Turn over**

**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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**(continued on the next page)**

**Turn over**

**2. continued.**

**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)**

**Turn over**

**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)**

---

**Turn over**

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)

Turn over

**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)**

**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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**Turn over**



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 is on the next page.

Turn over

**4. continued.**

**X = \_\_\_\_\_**

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

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**Turn over**

**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.**

**(continued on the next page)**

**Turn over**

**5. continued.**

**(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)**

**(continued on the next page)**

**6. continued.**

**(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)**

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**(continued on the next page)**

**7. continued.**

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

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

**(continued on the next page)**



**7. continued.**

**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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**Turn over**

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

**(continued on the next page)**

**8. continued.**

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

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

**(continued on the next page)**

**Turn over**

**8. continued.**

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

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

**(continued on the next page)**

**Turn over**

**8. (b) continued.**

**(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 two pages.**

9. continued.

Turn over



9. continued.

\_\_\_\_\_ rand

**(Total for Question 9 is 4 marks)**

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**Turn over**

**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**

**(continued on the next page)**

**10. continued.**

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

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

**(continued on the next page)**

**Turn over**

**10. continued.**

**Look at the diagram for**

**Question 10(b) in the**

**Diagram Booklet.**

**It is a different number machine.**

**The input is X**

**(continued on the next page)**

**10. continued.**

- (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**

**(continued on the next page)**

**Turn over**

**11. (a) continued.**

**(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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**Turn over**



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

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

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**(continued on the next page)**

**Turn over**

**12. continued.**

**(c) Make  $t$  the subject of**

$$x = tv - m$$

**(2 marks)**

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

**12. (c) continued.**

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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.**

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

**(continued on the next page)**

**Turn over**

**12. continued.**

- (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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**Turn over**

**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 three pages.**

**13. continued.**

**Turn over**

**13. continued.**

**Turn over**



**13. continued.**

**g = \_\_\_\_\_**

**(Total for Question 13 is 4 marks)**

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**Turn over**

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.

(2 marks)

Answer space continues on the next page.

**14. continued.**

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**(Total for Question 14 is 2 marks)**

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**Turn over**

- 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 two pages.**

15. continued.

Turn over

**15. continued.**

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

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**Turn over**

**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.**

**(continued on the next page)**

**Turn over**

**16. continued.**

**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.**

**Work out the least possible value  
of  $h$**

**(4 marks)**

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



**16. continued.**

**Turn over**

**16. continued.**

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**(Total for Question 16 is 4 marks)**

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**Turn over**

**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)**

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

**17. (b) continued.**

\_\_\_\_\_ minutes

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

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**Turn over**

**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.**

**(continued on the next page)**

**Turn over**

**18. continued.**

**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.**

**Turn over**



**18. continued.**

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

**(Total for Question 18 is 4 marks)**

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**Turn over**

- 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)**

**(continued on the next page)**

**19. continued.**

**(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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**Turn over**

**20. (a) Solve**

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

**Show clear algebraic working.**

**(3 marks)**

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

**20. (a) continued.**

**t = \_\_\_\_\_**

**(continued on the next page)**

**Turn over**

**20. continued.**

**(b) Simplify**

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

**(1 mark)**

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**(continued on the next page)**

**Turn over**

**20. continued.**

**(c) Simplify fully**

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

**(2 marks)**

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**(continued on the next page)**

**Turn over**

**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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**Turn over**



**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.**

**(continued on the next page)**

**21. continued.**

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

**(3 marks)**

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

**Turn over**

**21. continued.**

\_\_\_\_\_ grams

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

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**Turn over**

**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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**Turn over**

**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.**

**(3 marks)**

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

**23. continued.**

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

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

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**Turn over**

**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 two pages.**



**24. continued.**

**Turn over**

**24. continued.**

**k = \_\_\_\_\_**

**(Total for Question 24 is 3 marks)**

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**Turn over**

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

**Find an equation of the line.**

**(2 marks)**

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

**25. continued.**

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**(Total for Question 25 is 2 marks)**

---

**Turn over**

**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.**

**(continued on the next page)**

**26. continued.**

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

**Work out the value of  $y$   
(5 marks)**

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

**26. continued.**

**Turn over**

**26. continued.**

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

**(Total for Question 26 is 5 marks)**

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**TOTAL FOR PAPER IS 100 MARKS**

**END OF PAPER**

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