

**Paper Reference 1MA1/1F**  
**Pearson Edexcel**  
**Level 1/Level 2 GCSE (9–1)**

<b>Total Marks</b>
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**Mathematics**  
**PAPER 1 (Non-Calculator)**  
**Foundation Tier**

**Friday 19 May 2023 – Morning**

**Time: 1 hour 30 minutes**

**In the boxes below, write your name,  
centre number and candidate number.**

<b>Surname</b>					
<b>Other names</b>					
<b>Centre Number</b>					
<b>Candidate Number</b>					

**YOU MUST HAVE**

**Ruler, protractor, compasses, writing and drawing equipment, Formulae Sheet (enclosed). Tracing paper may be used.**

**YOU WILL BE GIVEN**

**Diagram Booklet**

**Turn over**

# **INSTRUCTIONS**

**Answer ALL questions.**

**Answer the questions in the spaces provided in this Question Paper or on the separate diagrams – there may be more space than you need.**

**You must SHOW ALL YOUR WORKING.**

**Diagrams are NOT accurately drawn, unless otherwise indicated.**

**CALCULATORS MAY NOT BE USED.**

**Turn over**

**INFORMATION**

**The total mark for this paper is 80**

**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 in case you need them.**

**You may be provided with a model for Question 27  
It is NOT accurate.**

**Turn over**

**ADVICE**

**Read each question carefully before you start to answer it.**

**Try to answer every question.**

**Check your answers if you have time at the end.**

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**Turn over**

**Answer ALL questions.**

**Write your answers in the spaces provided.**

**You must write down all the stages in your working.**

**7**

- 1. Write 38% as a decimal.**

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**(Total for Question 1 is 1 mark)**

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**Turn over**

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

**It shows a shaded shape.**

**What fraction of the shape is shaded?**

**(1 mark)**

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



**2. continued.**

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**(Total for Question 2 is 1 mark)**

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**Turn over**

3. Here is a list of five numbers.

1.6

1.4

2.1

0.5

1.3

From the list, write down the smallest number.

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(Total for Question 3 is 1 mark)

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Turn over

**4. Work out**

$$\mathbf{-9 + 5}$$

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**(Total for Question 4 is 1 mark)**

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**Turn over**

**5. Solve**

$$p - 2 = 3$$

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

**(Total for Question 5 is 1 mark)**

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**Turn over**

- 6. Look at the diagram for Question 6 in the Diagram Booklet.**

**Freddie adds three labels to the diagram of a circle shown in the Diagram Booklet.**

**Explain why one of the labels is wrong.**

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**(Total for Question 6 is 1 mark)**

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- 7. Write down THREE different factors of 20**

**(2 marks)**

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

**7. continued.**

\_\_\_\_\_ ,

\_\_\_\_\_ ,

\_\_\_\_\_

**(Total for Question 7 is 2 marks)**

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**Turn over**

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

It shows two angles marked **X** and  **$50^\circ$**

- (a) Work out the size of the angle marked **X**  
(2 marks)



(continued on the next page)

Turn over



**8. continued.**

**A student says that an angle of  $50^\circ$  is an obtuse angle.**

**The student is wrong.**

**(b) Explain why.**

**(1 mark)**

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**(Total for Question 8 is 3 marks)**

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**Turn over**

9. Look at the diagram for Question 9 in the Diagram Booklet.

It shows a grid.

- (a) Write down the coordinates of point B

(1 mark)

( \_\_\_\_\_ , \_\_\_\_\_ )

(continued on the next page)

Turn over

**9. continued.**

**(b) On the grid in the  
Diagram Booklet, plot the point  
with coordinates  $(4, -2)$**

**Label this point C**

**(1 mark)**

**(c) Write down the coordinates of  
the midpoint of AB**

**(1 mark)**

**( \_\_\_\_\_ , \_\_\_\_\_ )**

**(continued on the next page)**

**Turn over**

**9. continued.**

- (d) On the grid in the  
Diagram Booklet, draw the line  
with equation  $y = -4$   
(1 mark)**

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

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**Turn over**

**10. Max sees this special offer in a shop.**

**Buy one large plate and get one small plate for half the normal price.**

**The normal price of a large plate is £2**

**The normal price of a small plate is 80 pence**

**Max wants to buy 6 large plates and 6 small plates using this offer.**

**He has £15**

**(continued on the next page)**

**Turn over**

**10. continued.**

**Has Max got enough money?**

**You must show how you get your  
answer.**

**(4 marks)**

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

**Turn over**

10. continued.

Turn over

**10. continued.**

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

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**Turn over**



- 11. A total of 700 tickets were on sale for a football match.**

**452 of the tickets were sold.**

- (a) How many tickets were NOT sold?**

**(2 marks)**

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

11. (a) continued.

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(continued on the next page)

Turn over

**11. continued.**

**For a different football match,**

**297 tickets were sold for  
£9·50 each.**

**399 tickets were sold for  
£19·50 each.**

**(b) Work out an estimate for the total  
amount of money paid for these  
tickets.**

**You must show all your working.**

**(3 marks)**

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

**Turn over**

11. (b) continued.

£ \_\_\_\_\_

(continued on the next page)

Turn over

**11. continued.**

**(c) Is your answer to part (b)  
an underestimate or an  
overestimate?**

**Give a reason for your answer.**

**(1 mark)**

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**(Total for Question 11 is 6 marks)**

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**Turn over**

**12. Here are six numbers.**

**13      5      4      9      3      8**

**Work out the mean.**

**(2 marks)**

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

**Turn over**

**12. continued.**

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**(Total for Question 12 is 2 marks)**

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**Turn over**

13. (a) Simplify

$$\frac{15w}{3}$$

(1 mark)

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(continued on the next page)

Turn over



**13. continued.**

**(b) Simplify**

$$19 + 5p + 4q - 7p + q$$

**(2 marks)**

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**(continued on the next page)**

**Turn over**

**13. continued.**

**(c) Factorise**

$$8y - 6$$

**(1 mark)**

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

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**Turn over**

**14. Last week, 73% of the tickets sold at a cinema were adult tickets.**

**(a) What percentage of the tickets sold were NOT adult tickets?  
(1 mark)**

\_\_\_\_\_ %

**(continued on the next page)**

**Turn over**

**14. continued.**

**Some people watched a film at the cinema.**

**number of adults : number of children  
= 2 : 5**

**(b) What fraction of these people  
were adults?  
(1 mark)**

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**(continued on the next page)**

**Turn over**

**14. continued.**

**On Friday,**

**500** people watched a film at the cinema.

**70%** of these people were children.

**On Saturday,**

**720** people watched the film at the cinema.

**$\frac{5}{8}$**  of these people were children.

**Kasim thinks more children watched the film on Friday than on Saturday.**

**(continued on the next page)**

**Turn over**

**14. continued.**

**(c) Is Kasim correct?**

**You must show how you get your  
answer.**

**(3 marks)**

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

**Turn over**

**14. (c) continued.**

**(Total for Question 14 is 5 marks)**

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**Turn over**

**15. Work out**

$$\frac{6}{7} \times \frac{5}{12}$$

**Give your answer as a fraction in its simplest form.**

**(2 marks)**

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

**Turn over**



**15. continued.**

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**(Total for Question 15 is 2 marks)**

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**Turn over**

- 16. Look at the information for Question 16 in the Diagram Booklet. It is the list of ingredients for making 20 biscuits.**

**Harry wants to make 60 biscuits.**

**How much flour does Harry need?  
(2 marks)**

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

**16. continued.**

\_\_\_\_\_ grams

**(Total for Question 16 is 2 marks)**

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**Turn over**

17. There are **200** counters in a bag.

**38** counters are red.

**52** counters are blue.

The rest of the counters are yellow or green.

There are the same number of yellow counters as green counters.

What percentage of the counters in the bag are yellow?

(4 marks)

Answer space is on the next two pages.

Turn over

17. continued.

Turn over

**46**

**17. continued.**

\_\_\_\_\_ %

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

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**Turn over**

18. Naomi has **B** bags of apples and **C** crates of apples.

There are **5** apples in each bag.

There are **28** apples in each crate.

Naomi has a total of **T** apples.

Write a formula for **T** in terms of **B** and **C**

(3 marks)

Answer space continues on the next page.

**18. continued.**

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**(Total for Question 18 is 3 marks)**

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**Turn over**



19. Here are the first five terms of an arithmetic sequence.

**−5      3      11      19      27**

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

(2 marks)

Answer space continues on the next page.

**19. continued.**

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**(Total for Question 19 is 2 marks)**

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**Turn over**

**20. Work out**

$$8.46 \div 0.15$$

**(3 marks)**

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

**Turn over**

**20. continued.**

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**(Total for Question 20 is 3 marks)**

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**Turn over**

**21. Work out**

$$7\frac{3}{8} - 2\frac{1}{2}$$

**Give your answer as a mixed number.  
(3 marks)**

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

**Turn over**

**21. continued.**

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

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**Turn over**

- 22. A cube has a total surface area of  
 $150 \text{ cm}^2$**

**Work out the volume of the cube.**

**(4 marks)**

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

**22. continued.**

\_\_\_\_\_  $\text{cm}^3$

**(Total for Question 22 is 4 marks)**

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**Turn over**



23. The table shows information about the daily rainfall in a town for 60 days.

Rainfall (R mm)	Frequency
$0 \leq R < 5$	5
$5 \leq R < 10$	25
$10 \leq R < 15$	15
$15 \leq R < 20$	10
$20 \leq R < 25$	5

(continued on the next page)

Turn over

**23. continued.**

**Look at the diagram for Question 23  
in the Diagram Booklet.**

**It shows a blank grid.**

**On the grid, draw a frequency  
polygon for the information in the  
table on the previous page.**

**(Total for Question 23 is 2 marks)**

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**Turn over**

**24. Look at the diagram for Question 24 in the Diagram Booklet.**

**It shows an incomplete Venn Diagram.**

$$\mathcal{U} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$$

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

$$B = \{\text{square numbers}\}$$

**(a) Complete the Venn diagram in the Diagram Booklet for this information.**

**(3 marks)**

**(continued on the next page)**

**Turn over**

**24. continued.**

**Remember:**

$$\mathcal{U} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$$

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

$$B = \{\text{square numbers}\}$$

**A number is chosen at random from the universal set  $\mathcal{U}$**

**(b) Find the probability that this number is in the set  $B'$**

**(2 marks)**

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

**Turn over**

**24. (b) continued.**

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**(Total for Question 24 is 5 marks)**

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**Turn over**

**25. Look at the diagram for Question 25  
in the Diagram Booklet.**

**It shows a scatter graph with  
information about the ages and  
weights of some babies.**

**(continued on the next page)**

**25. continued.**

**(a) Describe the relationship  
between the age and the weight  
of the babies.**

**(1 mark)**

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**(continued on the next page)**

**Turn over**

**25. continued.**

**Another baby has a weight of  $6.0$  kg**

- (b) Using the scatter graph in the Diagram Booklet, find an estimate for the age of this baby.  
(2 marks)**

\_\_\_\_\_ months

**(Total for Question 25 is 3 marks)**

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**Turn over**



**26. The price of a holiday increases  
by 20%**

**This 20% increase adds £240 to the  
price of the holiday.**

**Work out the price of the holiday  
before the increase.**

**(2 marks)**

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

**26. continued.**

£ \_\_\_\_\_

**(Total for Question 26 is 2 marks)**

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**Turn over**

**27. Look at the diagram for Question 27 in the Diagram Booklet.**

**You may be provided with a model.**

**They show a solid cylinder on a horizontal floor.**

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

**The cylinder has a**

**volume of 1200 cm<sup>3</sup>**

**height of 40 cm**

**The cylinder exerts a force of 90 newtons on the floor.**

**(continued on the next page)**

**Turn over**

**27. continued.**

**Work out the pressure on the floor  
due to the cylinder.**

**(3 marks)**

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

**Turn over**

**27. continued.**

**Turn over**

**27. continued.**

\_\_\_\_\_ newtons/cm<sup>2</sup>

**(Total for Question 27 is 3 marks)**

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**Turn over**

**28. Look at the diagram for Question 28 in the Diagram Booklet.**

**It shows two intersecting straight lines on a grid.**

**Use the graphs to solve the simultaneous equations**

$$2 - 2y = x$$

$$2y = 3x - 22$$

**(1 mark)**

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

**Turn over**

**28. continued.**

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

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

**(Total for Question 28 is 1 mark)**

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**Turn over**



29. Work out the value of

$$\frac{4^{-6} \times 4^9}{4}$$

(2 marks)

Answer space continues on the next page.

Turn over

**29. continued.**

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**(Total for Question 29 is 2 marks)**

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**Turn over**

**75**

**30. Write down the exact value  
of  $\cos 60^\circ$**

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**(Total for Question 30 is 1 mark)**

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**Turn over**

**31. Look at the diagram for Question 31 in the Diagram Booklet.**

**It is a probability tree diagram showing the probabilities that Shayla will work at home or will work at the office on two days next week.**

**Work out the probability that Shayla will work at home on Monday and work at the office on Friday.**

**(2 marks)**

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

**Turn over**

**31. continued.**

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**(Total for Question 31 is 2 marks)**

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**TOTAL FOR PAPER IS 80 MARKS**

**END OF PAPER**

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