

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

Mathematics  
PAPER 2 (Calculator)  
Foundation Tier

Total Marks
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Monday 3 June 2024 – Morning

Time: 1 hour 30 minutes

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

Surname					
Other names					
Centre Number					
Candidate Number					

**YOU MUST HAVE**

**Ruler, protractor, pair of compasses, writing and drawing equipment, calculator, Formulae Booklet (enclosed). Tracing paper may be used.**

**YOU WILL BE GIVEN**

**A separate Diagram Booklet**

**INSTRUCTIONS**

**Answer ALL questions.**

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

**You must show all your working.**

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

**Calculators may be used.**

**INSTRUCTIONS continued.**

**If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.142 unless the question instructs otherwise.**

**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.**

**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.**

**Answer ALL questions.**

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

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

- 1. Write the following five numbers in order.**

**Start with the lowest number.**

**4**

**−3**

**7**

**2**

**−1**

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

**Turn over**

2. Change **5000** millilitres to litres.

\_\_\_\_\_ litres

(Total for Question 2 is 1 mark)

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3. Write  $\frac{31}{100}$  as a decimal.

\_\_\_\_\_

(Total for Question 3 is 1 mark)

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4. Write down the multiple of 7 that is between 30 and 40

\_\_\_\_\_

(Total for Question 4 is 1 mark)

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5. Complete the statement below to make it correct.

\_\_\_\_\_  $\times m = 2m$

(Total for Question 5 is 1 mark)

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

**The diagram is a pictogram.**

**Ben sells houses.**

**The pictogram shows information about the number of houses Ben sold in each of the first three months of last year.**

**(a) Write down the number of houses Ben sold in January.**

**(1 mark)**

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**(b) In April, Ben sold 11 houses.**

**Show this information on the pictogram.**

**(1 mark)**

**6. continued.**

**(c) Ben sold a total of 60 houses in the first five months of last year.**

**Work out the number of houses Ben sold in May.**

**(3 marks)**

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**(Total for Question 6 is 5 marks)**

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**Turn over**



- 7. (a) Look at the diagram for Question 7 (a) in the separate Diagram Booklet.**  
**The diagram shows a line.**  
**Measure the length of the line.**  
**Give your answer in centimetres.**  
**(1 mark)**

\_\_\_\_\_ centimetres

- (b) Look at the diagram for Question 7 (b) in the separate Diagram Booklet.**  
**The diagram shows an angle marked x.**  
**Measure the size of the angle marked x.**  
**(1 mark)**

\_\_\_\_\_ °

**(continued on the next page)**

**Turn over**

**7. continued.**

**(c) In the space provided for  
Question 7 (c) in the separate  
Diagram Booklet, draw a hexagon.  
(1 mark)**

**(Total for Question 7 is 3 marks)**

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

**The diagram is a coordinate grid.**

**The points **A** and **B** are shown on the grid.**

**(a) Write down the coordinates of the point **A**.**

**(1 mark)**

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

**(continued on the next page)**

**8. continued.**

**(b) Find the coordinates of the midpoint of AB.**

**(2 marks)**

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

**(c) On the grid, mark with a cross (X) the point with coordinates  $(-4, 2)$**

**Label this point C.**

**(1 mark)**

**(Total for Question 8 is 4 marks)**

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**9. Anil has a job as a driver.**

**He is paid for each mile he drives.**

**He is also paid expenses.**

**One week Anil writes down the distance readings from his car.**

<b>Start of week:</b>	<b>4</b>	<b>7</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>miles</b>
<b>End of week:</b>	<b>4</b>	<b>7</b>	<b>8</b>	<b>7</b>	<b>9</b>	<b>miles</b>

**For this week, Anil is paid 47p for each mile he drives.**

**He is also paid expenses of £80**

**Work out the total amount that Anil is paid.**

**Give your answer in pounds.**

**(4 marks)**

**Answer space continues on the next 2 pages.**

**Turn over**

**9. continued.**

9. continued.

£ \_\_\_\_\_

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

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**Turn over**

**10. Anita throws a coin 3 times.  
Each time the coin can land on  
heads (H) or tails (T).**

**List all the possible outcomes.**

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**(Total for Question 10 is 2 marks)**

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

**Majid has a spinner.**

**The diagram shows the spinner with three sections labelled 1, 2 and 3.**

**Majid is going to spin the arrow.**

**The arrow can land on 1 or on 2 or on 3**

**Majid says,**

**“The probability that the arrow will land on 2 is  $\frac{1}{3}$  because the spinner has three sections.”**

**Is Majid correct?**

**You must give a reason for your answer.**

**(1 mark)**

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

**Turn over**

**11. continued.**

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**(Total for Question 11 is 1 mark)**

**12. Saira buys 24 bars of chocolate.**

**$\frac{2}{3}$  of the 24 bars are white chocolate.**

**The rest of the 24 bars are milk chocolate.**

**Each milk chocolate bar has a weight of 35 grams.**

**Work out the total weight of the milk chocolate bars that Saira buys.**

**(3 marks)**

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

12. continued.

\_\_\_\_\_ grams

(Total for Question 12 is 3 marks)

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Turn over

**13. (a) Simplify  $2p \times 3q$**   
**(1 mark)**

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**(continued on the next page)**

**13. continued.**

**(b) Work out the value of  $T$ , when:**

$$T = w + 2y$$

$$w = 3$$

$$\text{and } y = -4$$

**(2 marks)**

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

**(Total for Question 13 is 3 marks)**

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**Turn over**

**14. (a) On Monday, Lizzie cycled  
36 kilometres in 3 hours.**

**Work out Lizzie's average speed.  
(2 marks)**

\_\_\_\_\_ kilometres  
per hour

**(continued on the next page)**

**14. continued.**

**(b) On Tuesday, Lizzie cycled  
36 kilometres at an average speed of  
16 kilometres per hour.**

**Lizzie says that the total time she  
cycled on Monday and Tuesday was  
less than 5 hours 20 minutes.**

**Is Lizzie correct?**

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

**(3 marks)**

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



**14. (b) continued.**

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

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**Turn over**

- 15. £3500 is invested in a bank for 6 years.  
The bank pays SIMPLE interest at a rate  
of 2·5% per year.**

**Work out the total amount of simple  
interest paid.  
(2 marks)**

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

15. continued.

£ \_\_\_\_\_

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

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**Turn over**

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

**The diagram shows a graph.**

**You can use the graph to change between ounces and grams.**

**(a) Change 8 ounces to grams.**

**(1 mark)**

\_\_\_\_\_ grams

**(continued on the next page)**

**16. continued.**

**(b) Change 1 kg to ounces.  
(2 marks)**

\_\_\_\_\_ ounces

**(Total for Question 16 is 3 marks)**

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**17. Look at the diagram for Question 17 in the separate Diagram Booklet.**

**The diagram shows triangle ABC.**

**The region R consists of all points inside the triangle that are**

**less than 5 cm from A**

**AND closer to C than to B.**

**On the diagram show, by shading, the region R.**

**(Total for Question 17 is 3 marks)**

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**18. Mrs Simpson organised a school trip for 66 children.**

**The total cost of the trip was £1800**

**The school paid 56% of the total cost.**

**The rest of the total cost was divided equally between the 66 children.**

**Work out how much money each child paid.**

**(3 marks)**

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

18. continued.

£ \_\_\_\_\_

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

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**Turn over**



19. (a) Work out the value of  $\frac{\sqrt{35 \cdot 2 + 1 \cdot 7^3}}{4 \cdot 6^2 - 8 \cdot 91}$

Write down all the numbers on your calculator display.

(2 marks)

**19. continued.**

**(b) Write your answer to part (a) correct  
to 2 significant figures.  
(1 mark)**

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**(Total for Question 19 is 3 marks)**

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**20. Look at the diagram for Question 20 in the separate Diagram Booklet.**

**The diagram is NOT accurately drawn.**

**The diagram shows a right-angled triangle labelled **ABC**.**

**In the diagram:**

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

$$\mathbf{AC = 19 \text{ cm}}$$

**Work out the length of **CB**.**

**Give your answer correct to**

**3 significant figures.**

**(2 marks)**

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

**20. continued.**

\_\_\_\_\_ **cm**

**(Total for Question 20 is 2 marks)**

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**Turn over**

**21. (a) Write 90 as a product of its prime factors.**

**(2 marks)**

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

**21. (a) continued.**

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**(continued on the next page)**

**Turn over**

**21. continued.**

**(b) When**

$$T = 2^2 \times 3$$

$$U = 2 \times 3^2$$

**write down the lowest common  
multiple (LCM) of T and U.**

**(1 mark)**

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

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**Turn over**

**22. The number of hours,  $H$ , that some machines take to make 5000 bottles is given by**

**$H = \frac{72}{n}$  where  $n$  is the number of machines.**

**On Monday, 6 machines made 5000 bottles.**

**On Tuesday, 9 machines made 5000 bottles.**

**The machines took more time to make the bottles on Monday than on Tuesday.**

**How much more time?  
(2 marks)**

**Answer space continues on the next 2 pages.**

**Turn over**



**22. continued.**

**22. continued.**

\_\_\_\_\_ hours

**(Total for Question 22 is 2 marks)**

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**23. There are only red discs, blue discs and yellow discs in a bag.**

**There are 24 yellow discs in the bag.**

**Mel is going to take at random a disc from the bag.**

**The probability that the disc will be yellow is 0.16**

**the number of red discs : the number of blue discs = 5 : 4**

**Work out the number of red discs in the bag.**

**(4 marks)**

**Answer space continues on the next 2 pages.**

**23. continued.**

**23. continued.**

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**(Total for Question 23 is 4 marks)**

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**Turn over**

- 24. (a) Complete the table below of values  
for  $y = x^2 - x$   
(2 marks)**

<b>x</b>	<b>−2</b>	<b>−1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>y</b>	<b>6</b>		<b>0</b>		<b>2</b>	

- (b) Look at the diagram for  
Question 24 (b) in the separate  
Diagram Booklet.**

**The diagram shows a grid.**

**On the grid, draw the graph of  
 $y = x^2 - x$  for values of  $x$  from  
−2 to 3**

**(2 marks)**

**(continued on the next page)**

**24. continued.**

**(c) Use your graph to find estimates for the solutions of the equation**

$$\mathbf{x^2 - x = 4}$$

**(2 marks)**

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**(Total for Question 24 is 6 marks)**

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**Turn over**

**25. Andy, Luke and Tina share some sweets in the ratio 1 : 6 : 14**

**Tina gives  $\frac{3}{7}$  of her sweets to Andy.**

**Tina then gives  $12\frac{1}{2}\%$  of the rest of her sweets to Luke.**

**Tina says,**

**“Now all three of us have the same number of sweets.”**

**Is Tina correct?**

**You must show how you get your answer.  
(4 marks)**

**Answer space continues on the next 2 pages.**



**25. continued.**

**25. continued.**

**(Total for Question 25 is 4 marks)**

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**Turn over**

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

**The diagram is NOT accurately drawn.**

**The diagram shows a quadrilateral labelled ABCD.**

**In the diagram:**

**All angles are measured in degrees.**

$$\text{Angle } ABC = 4y + 8$$

$$\text{Angle } BCD = 3y - 3$$

$$\text{Angle } CDA = 2y + 15$$

$$\text{Angle } DAB = 4y + 15$$

**Show that ABCD is a trapezium.**

**(4 marks)**

**Answer space continues on the next 2 pages.**

**26. continued.**

**26. continued.**

**(Total for Question 26 is 4 marks)**

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**Turn over**

**27. Look at the diagrams for Question 27 in the separate Diagram Booklet.**

**The diagrams are NOT accurately drawn.  
The diagrams show two similar isosceles triangles labelled ABC and DEF.**

**In triangle ABC:**

$$\mathbf{AB = 8\text{ cm}}$$

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

$$\mathbf{CB = 6\text{ cm}}$$

**In triangle DEF:**

$$\mathbf{DE = DF}$$

$$\mathbf{FE = 1.5\text{ cm}}$$

**Work out the length of DE.**

**(2 marks)**

**Answer space continues on the next 2 pages.**

**27. continued.**

**27. continued.**

\_\_\_\_\_ **cm**

**(Total for Question 27 is 2 marks)**

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**28. Look at the table for Question 28 in the separate Diagram Booklet.**

**The table shows information about the weights of 120 oranges.**

**(a) Find the class interval that contains the median.**

**(1 mark)**

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**(continued on the next page)**

**28. continued.**

**(b) Calculate an estimate for the mean weight of the 120 oranges.**

**Give your answer correct to 3 significant figures.**

**(3 marks)**

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

28. (b) continued.

\_\_\_\_\_ grams

(Total for Question 28 is 4 marks)

**TOTAL FOR PAPER IS 80 MARKS**  
**END OF PAPER**