

**Paper Reference 4MA1/1FR  
Pearson Edexcel  
International GCSE**

Total Marks

**Mathematics A  
PAPER: 1FR  
Foundation Tier  
(Calculator)**

**Time: 2 hours**

**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, 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.

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.

---

**Answer ALL TWENTY SEVEN questions.**

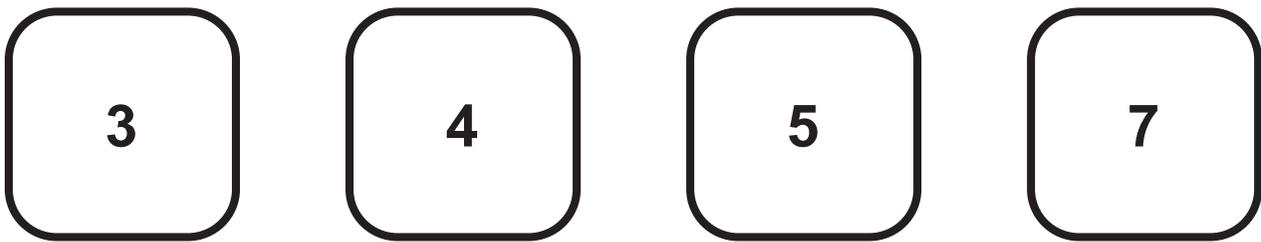
**Write your answers in the spaces provided.**

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

1. Look at the diagram for Question 1 in the Diagram Booklet.

It shows four blank cards.

Below are four cards with a number written on each one.



The four cards above are arranged to make the number **3457**

- (a) Arrange the four cards to make the largest possible even number.

Use the blank cards in the Diagram Booklet to show your answer.

(1 mark)

(continued on the next page)

1. continued.

Darren arranges the cards to make another number.

The difference between the number **3600** and the number that Darren makes is as small as possible.

(b) Find this difference.

(2 marks)

---

(Total for Question 1 is 3 marks)

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

It shows a 5-sided polygon.

(a) Write down the mathematical name for a 5-sided polygon.

(1 mark)

---

(b) On the diagram in the Diagram Booklet, mark with a letter **A** an acute angle.

(1 mark)

(c) On the diagram in the Diagram Booklet, mark with a letter **R** a reflex angle.

(1 mark)

(Total for Question 2 is 3 marks)

---

3. Look at the diagram for Question 3 in the Diagram Booklet.

It shows a pictogram.

The pictogram shows information about the number of loaves of bread sold in a bakery each day from Tuesday to Friday last week.

(a) How many loaves of bread were sold on Friday?

(1 mark)

---

(continued on the next page)

**3. continued.**

**The total number of loaves sold in the bakery from Monday to Friday last week was 66**

**(b) (i) Work out the number of loaves sold on Monday last week.**

**(2 marks)**

---

**(ii) Show this information for Monday on the pictogram in the Diagram Booklet.**

**(1 mark)**

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

---

4. (a) Write  $0.7$  as a fraction.  
(1 mark)

- 
- (b) Write a number in the box so that the following statement is correct.  
(1 mark)

$\frac{3}{4}$  and  $\frac{\square}{20}$  are equivalent fractions.

(continued on the next page)

4. continued.

(c) Work out  $\frac{3}{5}$  of 35

(2 marks)

---

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

---

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

It shows the trapezium **ABCD**

- (a) How many lines of symmetry has **ABCD**?  
(1 mark)

---

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

It shows another shape.

- (b) Write down the order of rotational symmetry of this shape.  
(1 mark)

---

(continued on the next page)

5. continued.

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

It shows an angle.

Find, by measuring, the size of the angle

marked **X**

(1 mark)



(Total for Question 5 is 3 marks)

---

6. Below is a list of seven numbers.

5    16    23    27    50    160    240

(a) From the numbers in the list, write down

(i) a cube number

(1 mark)

---

(ii) a factor of 80

(1 mark)

---

(continued on the next page)

6. continued.

Remember:

Below is a list of seven numbers.

5    16    23    27    50    160    240

Two numbers in the list are prime numbers.

(b) Work out the sum of these two prime numbers.  
(2 marks)

---

(Total for Question 6 is 4 marks)

---

7. Look at the diagram for Question 7 in the Diagram Booklet.

It shows a grid.

The three points **A**, **B** and **C** are marked on the grid.

One square on the grid represents  $1 \text{ cm}^2$

- (a) Write down the coordinates of **A**  
(1 mark)

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

- (b) Find the coordinates of the midpoint of **BC**  
(2 marks)

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

(continued on the next page)

7. continued.

- (c) Work out the area of triangle **ABC**  
(2 marks)

\_\_\_\_\_  $\text{cm}^2$

**D** is the point on the grid so that **ABCD** is a rectangle.

- (d) On the grid, mark the point **D**  
Label this point **D**  
(1 mark)

(Total for Question 7 is 6 marks)

---

8. Masie is told that  $13\,203 \div 27 = 489$

Explain how she can use this calculation to work out  $489 \times 28$

---

---

---

---

---

(Total for Question 8 is 2 marks)

---

Turn over

9. (a) Simplify

$$6p + 2t + p - 3t$$

(2 marks)

---

(continued on the next page)

9. continued.

$$A = 8x - 3y$$

(b) Work out the value of **A** when **x = 5** and **y = 4**  
(2 marks)

$$A = \underline{\hspace{10em}}$$

(Total for Question 9 is 4 marks)

---

10. Look at the diagram for Question 10 in the Diagram Booklet.

It is NOT accurately drawn.

In the diagram, **BCE** is a right-angled triangle.

**ABCD**, **BEF** and **GCEH** are straight lines.

Angle **BCE** =  $35^\circ$

- (a) (i) Find the value of **X**  
(1 mark)

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

- (ii) Give a reason for your answer.  
(1 mark)

---

---

(continued on the next page)

10. continued.

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

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

- (ii) Give a reason for your answer.  
(1 mark)

---

---

---

**(Total for Question 10 is 5 marks)**

---

11. Sophia spends a total of £6·30 on cheese.

She buys 500 grams of Cheddar cheese and 200 grams of Stilton cheese.

The cost of the Cheddar cheese is £9·20 for 1 kg

Work out the cost of 1 kg of the Stilton cheese.

(4 marks)

Answer space continues on the next page.

11. continued.

£ \_\_\_\_\_

(Total for Question 11 is 4 marks)

---

12. Look at the diagram for Question 12 in the Diagram Booklet.

It is NOT accurately drawn.

The diagram shows the trapezium **PQRS**

Angle **PQR** and angle **QPS** are right angles.

Find the value of **X**

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

(Total for Question 12 is 3 marks)

---

**13. Look at the table for Question 13 in the Diagram Booklet.**

**Salma asked some people what type of exercise they each liked the best from walking or running or swimming or cycling.**

**Salma is going to draw a pie chart for her results.**

**The incomplete table gives some information about her results.**

**18 people answered walking.**

**(a) How many people answered running?  
(2 marks)**

---

**(continued on the next page)**

**Turn over**

13. continued.

15 people answered cycling.

(b) How many people answered swimming?

(3 marks)

---

(Total for Question 13 is 5 marks)

---

14. Look at the information for Question 14 in the Diagram Booklet.

Jakub has bought a chicken.

He is going to use the rule in the Diagram Booklet to work out the number of minutes it will take to cook his chicken.

The weight of Jakub's chicken is 2.6 kg

- (a) Use the rule to work out the number of minutes it will take to cook Jakub's chicken.  
(2 marks)

\_\_\_\_\_ minutes

(continued on the next page)

Turn over

14. continued.

The following week Jakub buys another chicken.

He uses the rule and works out that it will take  
2 hours 40 minutes to cook this chicken.

(b) Work out the weight of this chicken.  
(3 marks)

\_\_\_\_\_ kg

(Total for Question 14 is 5 marks)

---

15. Bella and Millie share some money in the ratio **5 : 2**

Bella receives **10 · 50** euros more than Millie.

Work out the total amount of money they share.

\_\_\_\_\_ euros

(Total for Question 15 is 3 marks)

---

16. Work out the value of

$$\frac{15 \cdot 2 \times 4 \cdot 1}{8 - \sqrt{3 \cdot 7}}$$

Write down all the figures on your calculator display.

---

(Total for Question 16 is 2 marks)

---

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

It shows a biased spinner.

When the spinner is spun once, the probabilities that it lands on red or on yellow or on green are given in the table.

<b>Colour</b>	<b>Probability</b>
red	<b>0·25</b>
yellow	<b>0·2</b>
purple	
green	<b>0·2</b>

(continued on the next page)

17. continued.

(a) Work out the probability that the spinner lands on red or on yellow.

(1 mark)



(continued on the next page)

17. continued.

Yang is going to spin the spinner **300** times.

(b) Work out an estimate for the number of times the spinner will land on purple.

(3 marks)

---

(Total for Question 17 is 4 marks)

---

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

**It is NOT accurately drawn.**

**In a warehouse there are two types of shelves, type **R** and type **S****

**These two types of shelves are arranged into shelving units that form a sequence of patterns.**

**The first three terms in the sequence are in the Diagram Booklet.**

**(continued on the next page)**

18. continued.

The width of each type **R** shelf is  $2\cdot4$  metres and the width of each type **S** shelf is  $3\cdot5$  metres

(a) Work out the total width of a shelving unit that has 6 type **R** shelves.

(2 marks)

\_\_\_\_\_ metres

(continued on the next page)

18. continued.

A shelving unit has  $n$  type  $R$  shelves.

The total width of this shelving unit is  $W$  metres.

(b) Find an expression for  $W$  in terms of  $n$

Give your answer in its simplest form.

(2 marks)

$W =$  \_\_\_\_\_

(Total for Question 18 is 4 marks)

---

**19. Look at the diagram for Question 19 in the Diagram Booklet.**

**It shows five cards.**

**Each card has a number written on it.**

**The mean of the five numbers is 12**

**Work out the value of  $x$**

**(3 marks)**

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

19. continued.

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

(Total for Question 19 is 3 marks)

---

20. The language department of a college has  
180 students.

Each student studies exactly one of French,  
German, Italian or Spanish.

15 students study French.

45% of the students study German.

Express the percentage of students studying Italian  
or Spanish as a percentage of those studying  
French or German.

(4 marks)

Answer space continues on the next page.

20. continued.

\_\_\_\_\_ %

(Total for Question 20 is 4 marks)

---

Turn over

21. (a) Expand  
 $3c^3(c + 4)$   
(2 marks)

---

(continued on the next page)

21. continued.

(b) (i) Factorise

$$y^2 + 8y - 9$$

(2 marks)

---

(continued on the next page)

21. (b) continued.

(ii) Hence, solve

$$y^2 + 8y - 9 = 0$$

(1 mark)

---

(Total for Question 21 is 5 marks)

---

22. Show that

$$2\frac{2}{3} + 3\frac{3}{4} = 6\frac{5}{12}$$

(Total for Question 22 is 3 marks)

---

Turn over

**23. Look at Diagram 1 and Diagram 2 for Question 23 in the Diagram Booklet.**

**They are NOT accurately drawn.**

**Diagram 1 shows the front view and Diagram 2 shows the top view of a solid cylinder made from iron.**

**The cylinder has diameter 18 cm and height 3.5 cm**

**The mass of the cylinder is 7.04 kg**

**Work out the density of the iron.**

**Give your answer in  $\text{g/cm}^3$  correct to 2 significant figures.**

**(3 marks)**

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

23. continued.

\_\_\_\_\_ g/cm<sup>3</sup>

(Total for Question 23 is 3 marks)

---

**24. Jane bought a new car for \$18 000**

**The car depreciates in value by 15% each year.**

**Work out the value of the car at the end of 4 years.**

**Give your answer correct to the nearest \$**

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

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

---

**Turn over**

25. Solve the inequality

$$3 - 4y \leq 11$$

---

(Total for Question 25 is 2 marks)

---

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

It shows the line **L** drawn on a grid.

Find an equation for **L**

Give your answer in the form  $y = mx + c$

(3 marks)

Answer space continues on the next page.

26. continued.

---

**(Total for Question 26 is 3 marks)**

---

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

It is NOT accurately drawn.

The diagram shows a quadrilateral **ABCD**

In the diagram, **ABC** and **DAC** are right-angled triangles.

$$BC = 6 \text{ cm}$$

$$AC = 7.5 \text{ cm}$$

The area of quadrilateral **ABCD** is  $31.5 \text{ cm}^2$

Work out the length of **AD**

(6 marks)

Answer space continues on the next two pages.

27. continued.

27. continued.

\_\_\_\_\_ cm

(Total for Question 27 is 6 marks)

---

**TOTAL FOR PAPER IS 100 MARKS**

**END OF PAPER**

---