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

Total Marks

Mathematics
PAPER 2 (Calculator)
Foundation Tier

Time: 1 hour 30 minutes

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

Surname						
Other names						
Centre Number						
Candidate Number						

V66304A

Pearson

YOU MUST HAVE

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

YOU WILL BE GIVEN

Diagram Booklet

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 BE USED.

If your calculator does not have a π button, take the value of π 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.

You may be provided with a shape for Question 22

There may be spare copies of some diagrams in case you need to use them.

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 1476 to the nearest 10

(Total for Question 1 is 1 mark)

2. Write a fraction in the box to make the calculation below correct.

$$1 - \frac{3}{10} = \square$$

(Total for Question 2 is 1 mark)

3. Below is a list of nine numbers.

3	3	3	3	4
4	5	7	8	

Write down the mode of the numbers.

_____

(Total for Question 3 is 1 mark)

4. Write down a 3 digit number that is a multiple of 5

_____

(Total for Question 4 is 1 mark)

5. Write $0 \cdot 4$ as a percentage.

_____ %

(Total for Question 5 is 1 mark)

6. Write the six numbers below in order of size.

Start with the smallest number.

−11 −2 8 −7

3 10

(Total for Question 6 is 1 mark)

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

It shows polygon **ABCDEF** on a square grid.

(a) Write down the mathematical name of the polygon.

(1 mark)

(continued on the next page)

7. continued.

(b) Which side of the polygon is parallel to the side **CD**?

(1 mark)

(c) Write down a side of the polygon that is perpendicular to the side **AF**

(1 mark)

(Total for Question 7 is 3 marks)

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

It shows point A on a grid.

1 square length on the grid represents 1 cm

(a) Write down the coordinates of point A

(1 mark)

(_____ , _____)

(continued on the next page)

8. continued.

(b) On the grid in the Diagram Booklet, mark the point with coordinates $(-4, 3)$

Label this point **B**

(1 mark)

(continued on the next page)

8. continued.

(c) On the grid in the Diagram Booklet, draw the circle with centre $(1, -1)$ and radius 4 cm

(2 marks)

(Total for Question 8 is 4 marks)

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

It is a graph which shows information about the number of houses sold by an estate agent in each of six months last year.

(a) How many houses were sold by the estate agent in February? (1 mark)

(continued on the next page)

9. continued.

(b) For this estate agent, write down the ratio of the number of houses sold in January to the number of houses sold in June.

(2 marks)

(Total for Question 9 is 3 marks)

10. Sonia wants to book a holiday.

The holiday will cost £1428

Sonia will pay a deposit of £150

She will then pay the rest of the cost in 6 equal monthly payments.

How much is each monthly payment?

(3 marks)

Answer space continues on the next page.

10. continued.

£_____

(Total for Question 10 is 3 marks)

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

It shows a triangle **ABC**

ACD and **BCE** are straight lines.

Angle **BAC** = 116°

Angle **ABC** = 25°

Angle **ECD** is marked **x**

Work out the size of the angle marked **x**

Give a reason for each stage of your working.

(3 marks)

Answer space is on the next two pages.

11. continued.

11. continued.

°

(Total for Question 11 is 3 marks)

12. Look at the diagram for Question 12(a) in the Diagram Booklet.

It shows a number machine.

(a) Work out the output when the input is 28

(1 mark)

(continued on the next page)

12. continued.

Look at the diagram for Question 12(b) in the Diagram Booklet.

It shows a different number machine.

The number machine is not complete.

When the input is 8, the output is 154

(b) Complete the number machine in the Diagram Booklet.

(2 marks)

Answer space continues on the next page.

12. (b) continued.

(Total for Question 12 is 3 marks)

13. Look at the incomplete two–way table for Question 13 in the Diagram Booklet.

Sophie works in a bed shop.

During the last three months she sold 198 beds.

59 beds were sold without a mattress.

45 beds were double beds.

17 of the single beds were sold without a mattress.

67 of the 83 king size beds were sold with a mattress.

(continued on the next page)

13. continued.

Use this information to complete the two–way table in the Diagram Booklet.

There are twelve spaces to fill.

(3 marks)

Space for working continues on the next page.

13. continued.

(Total for Question 13 is 3 marks)

14. Below are three mathematical symbols.

$=$ $<$ $>$

Choose a symbol to make each of the following statements correct.

(i) $\frac{5}{8}$ _____ $\frac{2}{8}$

(1 mark)

(ii) -2×-3 _____ $-3 + 9$

(1 mark)

(Total for Question 14 is 2 marks)

15. Look at the table for Question 15 in the Diagram Booklet.

It shows information about the number of social media accounts used by each of 300 students.

(a) Work out the total number of social media accounts used by these students.

(2 marks)

Answer space continues on the next page.

15. (a) continued.

(continued on the next page)

15. continued.

(b) Find the median number of social media accounts used by these students.

(2 marks)

(Total for Question 15 is 4 marks)

16. On a scale drawing, a building has length 12·4 cm and width 9·4 cm

The real length of the building is 62 metres.

Work out, in metres, the real width of the building.

_____ metres

(Total for Question 16 is 3 marks)

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

It shows a grid.

On the grid in the Diagram Booklet, draw the graph of

$y = 4 - x$ for values of x from -2 to 4

(3 marks)

Space for working continues on the next page.

17. continued.

(Total for Question 17 is 3 marks)

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

It shows a sign that was in a doctor's waiting room.

Work out the mean length of time for each missed appointment.

Give your answer in minutes.

(3 marks)

Answer space continues on the next page.

18. continued.

_____ minutes

(Total for Question 18 is 3 marks)

19. Nimra buys a 3 kg box of sweets for £17·60

She puts the sweets into bags to sell.

Each bag contains 150 grams of sweets.

Nimra fills as many bags as possible.

She will sell each bag for the same price.

Nimra wants to make a profit of at least 35%

(continued on the next page)

19. continued.

Assuming she sells all the bags, what is the lowest price Nimra should charge for each bag?

(5 marks)

Answer space continues on the next two pages.

19. continued.

19. continued.

£_____

(Total for Question 19 is 5 marks)

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

It shows an incomplete probability tree diagram.

Lorena gets a train at the same time each morning to go to work.

She gets a train at the same time each evening to come home.

The probability tree diagram shows the probabilities of each train arriving late.

(continued on the next page)

20. continued.

(a) Complete the probability tree diagram in the Diagram Booklet. There are three spaces to fill.

(2 marks)

For a day that Lorena goes to work,

(b) work out the probability that the train to work and the train home will both arrive late.

(2 marks)

Answer space continues on the next page.

20. (b) continued.

(Total for Question 20 is 4 marks)

21. (a) Simplify

$(x^3)^5$

(1 mark)

(continued on the next page)

21. continued.

(b) Expand and simplify

$$4(y + 3) + 7(4 - 2y)$$

(2 marks)

(continued on the next page)

21. continued.

(c) Factorise fully

$$15x^3 + 3x^2y$$

(2 marks)

(Total for Question 21 is 5 marks)

22. Look at the diagram for Question 22 in the Diagram Booklet.

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

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

Describe fully the single transformation that maps shape **S** onto shape **T**

(2 marks)

Answer lines continue on the next page.

22. continued.

(Total for Question 22 is 2 marks)

23. The length of a football pitch is 90 metres, correct to the nearest metre.

Complete the error interval for the length of the football pitch.

_____ metres ≤ length <

_____ metres

(Total for Question 23 is 2 marks)

24. Festival A will be in a rectangular field with an area of $80\,000\ m^2$

The greatest number of people allowed to attend Festival A is 425

Festival B will be in a rectangular field 700 metres by 2000 metres.

The greatest number of people allowed to attend Festival B is 6750

The area per person allowed for Festival B is greater than the area per person allowed for Festival A

(continued on the next page)

24. continued.

(a) How much greater?

Give your answer correct to the nearest whole number.

(4 marks)

Answer space continues on the next page.

24. (a) continued.

_____ m^2

(continued on the next page)

24. continued.

Callum says,

"300 cm^2 is the same as 3 m^2 because there are 100 cm in 1 metre so you divide by 100"

Callum's method is wrong.

(b) Explain why.

(1 mark)

Answer lines continue on the next page.

24. (b) continued.

(Total for Question 24 is 5 marks)

25. The points **L**, **M** and **N** are such that **LMN** is a straight line.

The coordinates of **L** are $(-3, 1)$

The coordinates of **M** are $(4, 9)$

Given that $LM : MN = 2 : 3$,

find the coordinates of **N**

(4 marks)

Answer space continues on the next page.

25. continued.

(_____ , _____)

(Total for Question 25 is 4 marks)

26. A new phone cost £679

The value of the phone decreases at a rate of 4% per year.

Work out the value of the phone at the end of 3 years.

(3 marks)

Answer space continues on the next page.

26. continued.

£_____

(Total for Question 26 is 3 marks)

27. In Spain, Sam pays 27 euros for 18 litres of petrol.

In Wales, Leo pays £40·80 for 8 gallons of the same type of petrol.

1 euro = £0·85

4·5 litres = 1 gallon

Sam thinks that petrol is cheaper in Spain than in Wales.

Is Sam correct?

You must show how you get your answer.

(4 marks)

Answer space is on the next three pages.

27. continued.

27. continued.

27. continued.

(Total for Question 27 is 4 marks)

28. Solve the simultaneous equations

$$5x + 2y = 27$$

$$6x + 4y = 28$$

(3 marks)

Answer space continues on the next two pages.

28. continued.

28. continued.

x = _____

y = _____

(Total for Question 28 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS

END OF PAPER