

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

Total Marks

Mathematics
PAPER 2 (Calculator)
Foundation Tier

Friday 10 November 2023 – 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, 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 models for Question 7(a), Question 7(b) and Question 28. They are NOT accurate.

You may be provided with a cutout shape for Question 21.

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

5

1. Write down two factors of 18

_____ , _____

(Total for Question 1 is 1 mark)

Turn over

2. Write 0.9 as a fraction.

(Total for Question 2 is 1 mark)

7

3. Change 7 metres to centimetres.

_____ centimetres

(Total for Question 3 is 1 mark)

Turn over

4. Write down a square number that is between 10 and 50

(Total for Question 4 is 1 mark)

5. Work out
50% of 240

(Total for Question 5 is 1 mark)

6. Lydia works for 4 hours.
She is paid £50

How much is Lydia paid per hour?

£ _____

(Total for Question 6 is 2 marks)

- 7. Look at the diagram for Question 7(a) in the Diagram Booklet.**

You may be provided with a model.

They show a 3–D shape.

- (a) Write down the name of this 3–D shape.**

(1 mark)

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

You may be provided with a model.

They show a triangular prism.

Write down the number of vertices of the prism.

(1 mark)

(Total for Question 7 is 2 marks)

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

Curtis needs to buy some items for his sports club.

The table in the Diagram Booklet shows the prices.

Curtis needs to buy

5 footballs

6 hockey sticks

2 cricket bats

4 tennis balls.

Curtis has £200 to spend.

Show that Curtis can buy all the items he needs.

(4 marks)

Answer space continues on the next page.

8. continued.

(Total for Question 8 is 4 marks)

Turn over

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

Harris is buying a shirt and a tie.

He has a choice of three colours of shirt and a choice of three styles of tie as shown in the table in the Diagram Booklet.

Harris is going to choose one shirt and one tie.

List all the possible combinations Harris can choose.

(Total for Question 9 is 2 marks)

10. There are **24** red counters and **40** blue counters in a bag.

Write down the ratio of the number of red counters to the number of blue counters in the bag.

Give your ratio in its simplest form.

(Total for Question 10 is 2 marks)

11. Rima is going to roll a fair 6-sided dice.

- (a) Choose the word that best describes the probability that the dice will land on the number 3

impossible

unlikely

evens

likely

certain

(1 mark)

(continued on the next page)

11. continued.

(b) Choose the word that best describes the probability that the dice will land on an odd number.

impossible

unlikely

evens

likely

certain

(1 mark)

(Total for Question 11 is 2 marks)

12. A car travels at an average speed of 37 miles per hour for 3 hours.

Work out the distance that the car travels in the 3 hours.

_____ miles

(Total for Question 12 is 2 marks)

13. Look at the diagram for Question 13(a) in the Diagram Booklet.

It shows a rectangle 5 cm long and 4 cm wide.

Milo is trying to find the area of the rectangle.

He writes,

**“The area is 400 cm^2 because
 $5 \times 4 \times 5 \times 4 = 400$ ”**

(a) Explain what is wrong with Milo’s method.

(1 mark)

(continued on the next page)

13. continued.

Anya works out the area of a shape.

Her answer is 86 cm

(b) Explain why her answer cannot be fully correct.

(1 mark)

(Total for Question 13 is 2 marks)

14. 3 kg of flour costs £4·05

5 kg of flour and 6 kg of sugar cost £11·85

Work out the cost of 2 kg of flour and
5 kg of sugar.

(4 marks)

Answer space continues on the next page.

14. continued.

£ _____

(Total for Question 14 is 4 marks)

15. Martha and Nabeel share £120

Martha gets 72% of the money.

She spends 30% of the money she gets.

How much money does Martha have left?

(3 marks)

Answer space continues on the next page.

15. continued.

£ _____

(Total for Question 15 is 3 marks)

16. Look at the information for Question 16 in the Diagram Booklet.

160 people were asked to choose their favourite type of book.

They each chose from romance or adventure or horror or thriller.

Work out the total number of people who chose horror.

You must show how you get your answer.

(4 marks)

Answer space continues on the next page.

16. continued.

(Total for Question 16 is 4 marks)

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

It shows an incomplete stem and leaf diagram.

Here are the heights, in cm, of 16 sunflowers.

168	173	172	180	162	191	183	160
178	184	197	177	172	186	188	180

Show this information in the stem and leaf diagram in the Diagram Booklet.

(Total for Question 17 is 3 marks)

Turn over

18. (a) Work out

$$\frac{9 \cdot 8 + 6 \cdot 8}{4 \cdot 2 \times 2 \cdot 1}$$

Give your answer as a decimal.

Write down all the figures on your calculator display.

(2 marks)

(continued on the next page)

18. continued.

**(b) Write your answer to part (a) correct to
2 decimal places.**

(1 mark)

(Total for Question 18 is 3 marks)

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

It shows a quadrilateral **ABDE** and an equilateral triangle **BCD**

CB is parallel to **DE**

Angle **AED** = 132°

Angle **ABD** is a right angle.

Angle **EAB** is marked **x**

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

You must give a reason for each stage of your working.

(4 marks)

Answer space continues on the next page.

19. continued.

○

(Total for Question 19 is 4 marks)

Turn over

20. (a) Complete the table of values for
 $y = x^2 - x - 2$

There are four spaces to fill.

(2 marks)

x	y
-2	4
-1	
0	
1	-2
2	
3	

(continued on the next page)

20. continued.

(b) Look at the diagram for Question 20(b) in the Diagram Booklet.

It is a grid.

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

(2 marks)

(Total for Question 20 is 4 marks)

21. Look at the diagram for Question 21 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

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

(Total for Question 21 is 2 marks)

22. (a) Expand and simplify
 $3(2y - 5) + 7(y + 2)$
(2 marks)

(continued on the next page)

22. continued.

(b) Factorise fully

$$6x^2 + 15x$$

(2 marks)

(continued on the next page)

22. continued.

(c) Make q the subject of the formula

$$p = 3q + 11$$

(2 marks)

(Total for Question 22 is 6 marks)

23. Karen is organising a party for a charity.

She spends

£100 on food

£120 on a hall

£80 on a DJ.

Karen sells 54 tickets for the party.

Each ticket costs £7.50

Work out the percentage profit Karen makes for the charity.

(4 marks)

Answer space continues on the next page.

23. continued.

_____ %

(Total for Question 23 is 4 marks)

24. Andrew invests **£4500** in a savings account for **2** years.

The account pays compound interest at a rate of **3.4%** per year.

Calculate how much Andrew has in this savings account at the end of the **2** years.

£ _____

(Total for Question 24 is 2 marks)

25. Solve

$$5x - 14 = 52 - x$$

x = _____

(Total for Question 25 is 3 marks)

26. Chris, Debbie and Errol share some money in the ratio $3 : 4 : 2$
Debbie gets £120

Chris then gives some of his share to Debbie and some of his share to Errol.

The money that Chris, Debbie and Errol each have is now in the ratio $2 : 5 : 3$

How much money did Chris give to Errol?
(4 marks)

Answer space continues on the next page.

26. continued.

£ _____

(Total for Question 26 is 4 marks)

Turn over

27. The bearing of port **B** from port **A** is 147°

Work out the bearing of port **A** from port **B**

_____ °

(Total for Question 27 is 2 marks)

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

You may be provided with a model.

They show an empty tank in the shape of a cylinder.

The cylinder has radius 15 cm and height 43 cm

Water flows into the tank at a rate of 0.47 litres per minute.

Calculate the number of minutes it will take to completely fill the tank.

Give your answer correct to the nearest minute.

(4 marks)

Answer space continues on the next page.

28. continued.

_____ minutes

(Total for Question 28 is 4 marks)

29. Look at the diagram for Question 29 in the Diagram Booklet.

It shows a right-angled triangle **ABC**

BC = 28 cm

Angle **ACB** = 49°

Angle **ABC** is a right angle.

Calculate the length of **AB**

Give your answer correct to 3 significant figures.

(2 marks)

Answer space continues on the next page.

29. continued.

_____ cm

(Total for Question 29 is 2 marks)

30. Solve the simultaneous equations

$$3x + y = -4 \cdot 5$$

$$4x + 3y = -3 \cdot 5$$

(3 marks)

Answer space continues on the next page.

30. continued.

x = _____

y = _____

(Total for Question 30 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS

END OF PAPER
