

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					

YOU MUST HAVE

Ruler, protractor, compasses, writing and drawing equipment, calculator, Formulae Sheet. 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 model for Question 19

**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.

5

- 1. Write the five numbers below in order of size.
Start with the smallest number.**

-7

7

0

-2

-1

(Total for Question 1 is 1 mark)

Turn over

2. Write 37% as a fraction.

(Total for Question 2 is 1 mark)

3. Write down the 7th odd number.

(Total for Question 3 is 1 mark)

4. Change **53** centimetres to millimetres.

_____ millimetres

(Total for Question 4 is 1 mark)

5. Look at the diagram for Question 5 in the Diagram Booklet.

It shows four cards.

There is a number on each card.

Write down the smallest 4–digit even number that can be made using each card only once.

(Total for Question 5 is 1 mark)

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

It is accurately drawn.

It shows a quadrilateral **ABCD**

Angle **ADC** is marked **x**

- (a) Measure the length of the side **AB**

Give your answer in centimetres.

(1 mark)

_____ centimetres

- (b) Measure the size of the angle marked **x**

(1 mark)

_____ °

(Total for Question 6 is 2 marks)

7. Below Myles writes down the distance readings from his car at the start and end of a journey.

Start of journey: 12 468 miles

End of journey: 12 845 miles

Myles knows that the cost of petrol for this journey is 13 pence per mile.

Work out the total cost of the petrol used for this journey.

Give your answer in pounds.

(4 marks)

Answer space continues on the next page.

7. continued.

£ _____

(Total for Question 7 is 4 marks)

8. Safiya wants to hire a van.

She uses this rule to work out the cost of hiring a van for a number of days.

Cost = £45 × number of days

Safiya is going to hire the van for **7** days.

Work out the cost.

£_____

(Total for Question 8 is 2 marks)

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

The table below shows information about the number of students who arrived late at school each day one week.

	Number of students
Monday	9
Tuesday	10
Wednesday	8
Thursday	6
Friday	3

On the grid in the Diagram Booklet, draw a bar chart for this information.

(Total for Question 9 is 3 marks)

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

It shows part of a bus timetable between Wigan and Bolton.

- (a) How many minutes should the 07 20 bus take to go from Wigan to Lostock?
(2 marks)**

_____ minutes

(continued on the next page)

10. continued.

Alison goes from Blackrod to Bolton by bus.

One day Alison leaves her house at 08 00

She takes 7 minutes to walk to the bus stop in Blackrod.

She takes 15 minutes to walk from the bus stop in Bolton to work.

Alison needs to be at work for 09 20

(b) Will Alison get to work for 09 20?

You must show how you get your answer.

(3 marks)

Answer space continues on the next page.

10. (b) continued.

(Total for Question 10 is 5 marks)

11. **214** people go on a school trip.

The people on the trip are either adults or children.

There are **14** adults on the trip.

35% of the children on the trip are wearing a hat.

Find the number of children on the trip who are
NOT wearing a hat.

(Total for Question 11 is 4 marks)

Turn over

12. (a) Work out
 $\frac{5}{8}$ of 132
(2 marks)
-

(continued on the next page)

12. continued.

(b) Write the four fractions below in order of size.

Start with the smallest fraction.

$$\frac{3}{8}$$

$$\frac{9}{32}$$

$$\frac{1}{4}$$

$$\frac{21}{64}$$

(2 marks)

(Total for Question 12 is 4 marks)

13. A shop has two different special offers on milk.

Offer 1:

2 pints cost 75 pence

Pay for 2 bottles, get 1 free.

Offer 2:

4 pints cost £1.28

Pay for 1 bottle, get 1 bottle half price.

Which offer gives the better value for money?

You must show how you get your answer.

(4 marks)

Answer space continues on the next page.

13. continued.

(Total for Question 13 is 4 marks)

14. (a) Simplify

$$4p + 7q + 3p - q$$

(2 marks)

(continued on the next page)

14. continued.

(b) Solve

$$5(2m - 6) = 40$$

(3 marks)

$m =$ _____

(continued on the next page)

14. continued.

There are x sweets in a box.

There are y sweets in a packet.

(c) Write an expression, in terms of x and y , for the total number of sweets in 3 boxes and 2 packets.

(2 marks)

(Total for Question 14 is 7 marks)

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

Hetvi asked seventeen friends how many stickers they each have in their collection.

Below are her results.

77	86	94	87	71	98
74	103	71	85	82	84
97	91	88	89	75	

- (a) Show this information in a stem and leaf diagram in the Diagram Booklet.**
(3 marks)

(continued on the next page)

Turn over

15. continued.

(b) Find the median number of stickers.

(2 marks)

(Total for Question 15 is 5 marks)

16. Water flows through each of the pipes that fill a lake at the same rate.

It takes 4 of the pipes 12 hours to fill the lake.

Work out how many hours it would take 6 pipes to fill $\frac{1}{4}$ of the lake.

_____ hours

(Total for Question 16 is 3 marks)

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

The table shows information about the heights of 80 teenagers.

Work out an estimate for the mean height of the teenagers.

_____ cm

(Total for Question 17 is 3 marks)

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

The scatter graph shows information about the amount of rainfall, in mm, and the number of hours of sunshine for each of ten English towns on the same day.

One of the points is an outlier.

**(a) Write down the coordinates of this point.
(1 mark)**

(_____ , _____)

(continued on the next page)

18. continued.

- (b) Ignoring the outlier, describe the relationship between the amount of rainfall and the number of hours of sunshine.**

(1 mark)

On the same day in another English town there were 7 hours of sunshine.

- (c) Using the scatter graph, estimate the amount of rainfall in this town on this day.**

(2 marks)

_____ mm

(Total for Question 18 is 4 marks)

Turn over

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

It shows a grid with five shapes.

You may be provided with a model.

The front elevation and the plan of a solid are shown in the Diagram Booklet.

Choose which of the shapes **A to **C** shows the side elevation of the solid from the direction of the arrow.**

(Total for Question 19 is 2 marks)

20. Below are the first five terms of an arithmetic sequence.

7 13 19 25 31

- (a) Find an expression, in terms of n , for the n th term of this sequence.
(2 marks)

(continued on the next page)

20. continued.

The n th term of a different sequence is $8 - 6n$

(b) Is -58 a term of this sequence?

You must show how you get your answer.

(2 marks)

(Total for Question 20 is 4 marks)

21. Look at the diagram for Question 21 in the Diagram Booklet.

The diagram shows a plan of Jason's garden.

ABCO and **DEFO** are rectangles.

CDO is a right-angled triangle.

AFO is a sector of a circle with centre **O** and angle **AOF** = 90°

All the marked angles are right angles.

AB = 11 metres

BC = 7 metres

DE = 7 metres

EF = 9 metres

Jason is going to cover his garden with grass seed.

Each bag of grass seed covers 14m^2 of garden.

Each bag of grass seed costs £10.95

(continued on the next page)

21. continued.

Work out how much it will cost Jason to buy all the bags of grass seed he needs.

(5 marks)

Answer space continues on the next page.

21. continued.

£ _____

(Total for Question 21 is 5 marks)

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

It shows shape **ABC**

ABC is the right angle

AC = 14.5 cm

BC = **x** cm

angle **ACB** = 53°

Work out the value of **x**

Give your answer correct to 3 significant figures.

x = _____

(Total for Question 22 is 2 marks)

23. Ella invests £7000 for 2 years in an account paying compound interest.

In the first year, the rate of interest is 3%

In the second year, the rate of interest is 1.5%

Work out the value of Ella's investment at the end of 2 years.

£ _____

(Total for Question 23 is 3 marks)

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

It shows the graph of $y = x^2 - 6x + 4$

(a) Write down the y intercept of the graph of

$$y = x^2 - 6x + 4$$

(1 mark)

(b) Write down the coordinates of the turning point of the graph of

$$y = x^2 - 6x + 4$$

(1 mark)

(_____ , _____)

(continued on the next page)

24. continued.

(c) Use the graph to find estimates for the roots of

$$x^2 - 6x + 4 = 0$$

(2 marks)

(Total for Question 24 is 4 marks)

25. (a) Find the value of the reciprocal of 0.8
(1 mark)

$x = 4700$ correct to 2 significant figures.

- (b) Complete the error interval for x
(2 marks)

_____ $\leq x <$ _____

(Total for Question 25 is 3 marks)

26. The population of a town increased by 9% between 2018 and 2019

The population in 2019 was 165 680

Calculate the population in 2018

(Total for Question 26 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS

END OF PAPER
