

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

Total Marks

Mathematics
PAPER 2 (Calculator)
Foundation Tier

Wednesday 7 June 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					

Y75149A

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

Turn over

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.

Turn over

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 14
They are NOT accurate.**

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

Turn over

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.

Turn over

6

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

Turn over

7

- 1. Write 6184 correct to the nearest hundred.**

(Total for Question 1 is 1 mark)

Turn over

2. Write 0.7 as a fraction.

(Total for Question 2 is 1 mark)

Turn over

9

3. Change 9 metres into centimetres.

_____ centimetres

(Total for Question 3 is 1 mark)

Turn over

10

4. Simplify

$$3 \times 4t$$

(Total for Question 4 is 1 mark)

Turn over

5. Here is a list of five numbers.

20 40 60 80 100

**One of these numbers is a multiple of
25**

Which number?

(Total for Question 5 is 1 mark)

Turn over

6. Shari has a fair ordinary dice.

She rolls the dice once.

- (a) Look at the diagram
for Question 6(a) in the
Diagram Booklet.
It shows a probability scale.
On the probability scale, mark
the probability that Shari gets the
number 7
(1 mark)**

(continued on the next page)

Turn over

6. continued.

**(b) Look at the diagram
for Question 6(b) in the
Diagram Booklet.**

It shows a probability scale.

**On the probability scale, mark
the probability that Shari gets an
even number.**

(1 mark)

(Total for Question 6 is 2 marks)

Turn over

7. Look at the diagram for
Question 7(a) and 7(b) in the
Diagram Booklet.

It shows a triangle **ABC**

The triangle is accurately drawn.

- (a) Measure the length of **AC**
(1 mark)

_____ cm

(continued on the next page)

Turn over

7. continued.

(b) Measure the size of angle B
(1 mark)



(continued on the next page)

Turn over

7. continued.

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

It shows a different triangle PQR

$$\mathbf{QP = QR}$$

**(c) Write down the mathematical
name of this triangle.**

(1 mark)

(Total for Question 7 is 3 marks)

Turn over

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

It shows three motorway service stations

P, Q and R on a map.

The map has a scale of $1 \text{ cm} = 4 \text{ km}$

PQ represents 8 cm

QR represents 16 cm

Work out the real distance from

P to R

(3 marks)

Answer space is on the next page.

Turn over

8. continued.

_____ km

(Total for Question 8 is 3 marks)

Turn over

9. Here are the first five terms of a sequence.

3 8 13 18 23

- (a) Write down the next term of this sequence.
(1 mark)

(continued on the next page)

9. continued.

**(b) Write down the ratio of the
second term to the fourth term.
Give your ratio in its simplest
form.**

(2 marks)

(Total for Question 9 is 3 marks)

Turn over

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

It shows a graph that can be used to find the cost of parking a car in a car park for up to 8 hours.

(a) Use the graph to find the cost of parking a car for 4 hours.

(1 mark)

£ _____

(continued on the next page)

Turn over

10. continued.

**Justin drives into the car park at
08 00 in the morning.**

**When he drives out of the car park he
has to pay £9**

**(b) At what time does Justin drive
out of the car park?**

(3 marks)

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

Turn over

10. (b) continued.

(Total for Question 10 is 4 marks)

Turn over

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

It shows information about the weights of the people in a hotel lift.

Show that the total weight of the people in the lift is less than 1200 kg

(3 marks)

Answer space continues on the next page.

11. continued.

(Total for Question 11 is 3 marks)

Turn over

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

It shows a grid.

Shape **A is reflected in a mirror line
to give shape **B****

**(a) On the grid in the
Diagram Booklet, draw the mirror
line.**

(1 mark)

(continued on the next page)

Turn over

12. continued.

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

It shows a grid.

(b) Alex is asked to reflect shape **P
in the **X**-axis.**

**The diagram shows the
reflection, shape **R**, that Alex
draws.**

**Explain the mistake Alex has
made.**

(1 mark)

**Answer lines are on the next
page.**

Turn over

12. (b) continued.

(Total for Question 12 is 2 marks)

Turn over

13. There are **50** teachers in a school.

This is $\frac{1}{16}$ of the total number of people in the school.

Work out the total number of people in the school.

(Total for Question 13 is 2 marks)

Turn over

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

You may be provided with two models.

The models show a packet and a box.

The diagram shows a packet and a box.

Packets of sweets are put into boxes.

(continued on the next page)

14. continued.

**Each packet is a cuboid, 80 mm by
60 mm by 20 mm**

**Each box is a cuboid, 72 cm by
48 cm by 24 cm**

**Work out the greatest number of
packets that can be put into each
box.**

(4 marks)

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

Turn over

14. continued.

(Total for Question 14 is 4 marks)

Turn over

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

**It shows a fair ordinary dice and a fair
8-sided spinner.**

(continued on the next page)

15. continued.

Charlie throws the dice once and spins the spinner once.

Is Charlie more likely to get

**a number less than 3 on the dice
OR a number greater than 5 on the
spinner?**

You must show all your working.

(3 marks)

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

Turn over

15. continued.

Turn over

15. continued.

(Total for Question 15 is 3 marks)

Turn over

- 16. Paulo drives at an average speed of 56 km/h for 1 hour 45 minutes.**

Work out the distance Paulo drives.

(3 marks)

Answer space continues on the next page.

16. continued.

_____ km

(Total for Question 16 is 3 marks)

Turn over

17. There are 3 cinemas A, B and C

**The mean number of seats per
cinema is 380**

There are 350 seats in cinema A

There are 250 seats in cinema B

**Work out the number of seats in
cinema C**

(4 marks)

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

Turn over

17. continued.

Turn over

17. continued.

(Total for Question 17 is 4 marks)

Turn over

18. Asha buys 180 cans of cola.

The cans are sold in packs.

There are 12 cans in each pack.

Each pack costs £3

**(a) Work out the total cost of the
cola Asha buys.**

(3 marks)

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

Turn over

18. (a) continued.

£ _____

(continued on the next page)

Turn over

18. continued.

**Ethan buys a box of 24 cans of
lemonade for £7**

**There are 330 ml of lemonade in
each can.**

**(b) Work out the cost of 100 ml of
lemonade.**

**Give your answer correct to the
nearest penny.**

(3 marks)

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

Turn over

18. (b) continued.

_____ pence

(Total for Question 18 is 6 marks)

Turn over

19. 240 people work at a factory.

Of these people

150 have a car

110 have a bicycle

**65 of the people who have a bicycle
do NOT have a car.**

(continued on the next page)

19. continued.

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

**It shows an incomplete frequency
tree.**

**Use the information on the
previous page to complete
the frequency tree in the
Diagram Booklet.**

(3 marks)

(continued on the next page)

Turn over

19. continued.

**(b) What percentage of the
150 people who have a car also
have a bicycle?**

(2 marks)

_____ %

(Total for Question 19 is 5 marks)

Turn over

20. (a) Work out the value of

$$\frac{25 - \sqrt{43 \cdot 87}}{6 + 2 \cdot 1^2}$$

Write down all the figures on
your calculator display.

(2 marks)

(continued on the next page)

Turn over

20. continued.

- (b) Work out the value of the
reciprocal of 0.625
(1 mark)**

(Total for Question 20 is 3 marks)

Turn over

21. Write 60 as a product of its prime factors.

(2 marks)

Answer space continues on the next page.

21. continued.

(Total for Question 21 is 2 marks)

Turn over

22. There are 48 counters in a bag.

There are only red counters and blue counters in the bag.

number of red counters :

number of blue counters = 1 : 2

Helen has to work out how many red counters are in the bag.

She says,

“There are 24 red counters in the bag because 1 is half of 2 and 24 is half of 48”

22. continued.

Is Helen correct?

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

(Total for Question 22 is 1 mark)

Turn over

23. $-2 \leq n < 5$

n is an integer.

- (a) Write down the greatest possible value of n
(1 mark)
-

(continued on the next page)

Turn over

23. continued.

**(b) Look at the diagram for
Question 23(b) in the
Diagram Booklet.**

It shows a number line.

**On the number line, show the
inequality**

$$\mathbf{-4 \leq m < 1}$$

(2 marks)

(continued on the next page)

Turn over

23. continued.

(c) Solve

$$\frac{2}{5}t - 4 < 6$$

(3 marks)

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

Turn over

23. continued.

(Total for Question 23 is 6 marks)

Turn over

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

It shows a triangle ABC and a rectangle $PQRS$

In triangle ABC :

AB is marked $6x$

BC is marked 8

Angle ABC is a right angle.

In rectangle $PQRS$:

PQ is marked 5

PS is marked $4x - 1$

(continued on the next page)

24. continued.

All measurements are in centimetres.

**The area of the triangle is 10 cm^2
greater than the area of the rectangle.**

Work out the value of x

(4 marks)

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

Turn over

24. continued.

Turn over

24. continued.

X = _____

(Total for Question 24 is 4 marks)

Turn over

25. Last year a family recycled 800 kg of household waste.

57% of this waste was paper and glass.

weight of paper recycled : weight of glass recycled = 12 : 7

Calculate the weight of glass the family recycled.

(3 marks)

Answer space continues on the next two pages.

25. continued.

Turn over

25. continued.

_____ **kg**

(Total for Question 25 is 3 marks)

Turn over

26. A number, n , is rounded to 1 decimal place.

The result is 12.7

Complete the error interval for n

_____ $\leq n <$ _____

(Total for Question 26 is 2 marks)

Turn over

**27. Tamsin buys a house with a value of
£150 000**

**The value of Tamsin's house
increases by 4% each year.**

**Rachel buys a house with a value of
£160 000**

**The value of Rachel's house
increases by 1.5% each year.**

**At the end of 2 years, whose house
has the greater value?**

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

(4 marks)

**Answer space is on the next
two pages.**

Turn over

27. continued.

Turn over

27. continued.

(Total for Question 27 is 4 marks)

Turn over

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

It shows five graphs labelled A–E

**The table on the following page
shows the equations of these graphs.**

(continued on the next page)

28. continued.

Equation	Graph
$y = x^2 - 4x$	
$y = x + 3$	
$y = x^3 - 2$	
$y = \frac{1}{x}$	
$y = 5 - 2x$	

Match the letter of each graph with its equation.

(Total for Question 28 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS
END OF PAPER
