

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

Total Marks

Mathematics

Paper 2

(Calculator)

Foundation Tier

Thursday 6 June 2019 – Morning

**Time: 1 hour 30 minutes plus your
additional time allowance.**

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

Surname					
Other names					
Centre Number					
Candidate Number					

Y54227A

YOU MUST HAVE

Ruler, protractor, compasses, writing and drawing equipment, calculator. Tracing paper may be used.

YOU WILL BE GIVEN

Diagram Book

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 and models are NOT accurate 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.

There may be spare copies of some diagrams.

ADVICE

Read each question carefully before you start to answer it.

Keep an eye on the time.

Try to answer every question.

Check your answers if you have time at the end.

5

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

Turn over

6

- 1. Write 0.75 as a fraction.**

(Total for Question 1 is 1 mark)

Turn over

7

- 2. Write the following five numbers in order of size.**

Start with the smallest number.

−3 4 0 −1 2

(Total for Question 2 is 1 mark)

Turn over

3. Write down two factors of 15

(Total for Question 3 is 1 mark)

Turn over

4. Change **1756** grams to kilograms.

_____ kg

(Total for Question 4 is 1 mark)

Turn over

10

- 5. Write the number two million in figures.**

(Total for Question 5 is 1 mark)

Turn over

6. Dave goes into a cafe and buys
2 cups of coffee and a piece of cake.

Each cup of coffee costs £2.75

The cake costs £2.90

Dave pays with a £10 note.

He thinks he will get more than £1.50
in change.

Is Dave correct?

You must show how you get your
answer.

(3 marks)

Answer space is on the next two pages.

Turn over

6. continued.

Turn over

6. continued.

(Total for Question 6 is 3 marks)

Turn over

7. There are y boats on a lake.
There are 7 people in each boat.

Write an expression, in terms of y ,
for the total number of people in the
boats.

(Total for Question 7 is 1 mark)

Turn over

8. (a) Simplify

$$m \times n \times 7$$

(1 mark)

(continued on the next page)

Turn over

6. continued.

(b) Simplify

$$y \times y \times y$$

(1 mark)

(continued on the next page)

Turn over

8. continued.

(c) Simplify fully

$$\frac{e \times e \times e \times f}{e \times e \times f \times f}$$

(2 marks)

(Total for Question 8 is 4 marks)

Turn over

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

The incomplete pictogram shows information about the number of vinyl records sold in a shop on Monday and on Tuesday.

- (a) Write down the number of vinyl records sold

- (i) on Monday,
(1 mark)

(continued on the next page)

Turn over

9. (a) continued.

(ii) on Tuesday.

(1 mark)

(continued on the next page)

Turn over

9. continued.

On Wednesday and Thursday a total of 36 vinyl records were sold.

The number of records sold on Thursday was 8 times the number of records sold on Wednesday.

(b) Use this information to complete the pictogram.

(3 marks)

Answer space continues on the next page.

Turn over

9. (b) continued.

(Total for Question 9 is 5 marks)

Turn over

10. Here are three symbols.

$<$ $>$ $=$

Write one of these symbols in each box to make four true statements.

$$14 \quad \boxed{} \quad 21$$

$$4 + 7 \quad \boxed{} \quad 103 - 92$$

$$2^2 \quad \boxed{} \quad 2 \times 2$$

$$-3 \quad \boxed{} \quad -5$$

(Total for Question 10 is 2 marks)

Turn over

11. Work out the value of P when $r = 5$
and $q = -4$ given that $P = 7r + 3q$
-

(Total for Question 11 is 2 marks)

12. Look at the table for Question 12 in the Diagram Book.

It shows part of a train timetable.

Graham gets to the station in Brighton at 07 15

(a) Work out how many minutes he has to wait until 07 22
(1 mark)

_____ minutes

(continued on the next page)

Turn over

12. continued.

**(b) Work out how long it will take the
07 22 train to get to London.**

(2 marks)

(Total for Question 12 is 3 marks)

Turn over

- 13. Look at the diagram for Question 13 in the Diagram Book.**

It shows nine identical shaded squares inside a rectangle.

The length of the rectangle is 12 cm

Work out the width of the rectangle.

(3 marks)

Answer space continues on the next page.

13. continued.

_____ **cm**

(Total for Question 13 is 3 marks)

Turn over

28

14. Write the ratio $4 \cdot 5 : 2 \cdot 25$ in the form $n : 1$

(Total for Question 14 is 1 mark)

Turn over

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

It shows a garden in the shape of a rectangle 90 metres by 60 metres.

Flowers are grown in 40% of the garden.

The rest of the garden is grass.

Work out the area of the garden that is grass.

(4 marks)

Answer space is on the next two pages.

Turn over

15. continued.

Turn over

15. continued.

_____ m²

(Total for Question 15 is 4 marks)

Turn over

16. Look at the table for Question 16 in the Diagram Book.

Four biased coins, A, B, C and D are thrown.

The probability that each coin will land on Heads is shown in the table.

(a) (i) Which coin is least likely to land on Heads?

(1 mark)

(continued on the next page)

Turn over

16. (a) continued.

**(ii) Which coin is most likely to
land on Heads?**

(1 mark)

(continued on the next page)

Turn over

16. continued.

Julie says,

“The probability that coin **C** will land on Heads is the same as the probability that coin **C** will land on Tails.”

(b) Is she correct?

Give a reason for your answer.

(1 mark)

(continued on the next page)

Turn over

16. continued.

**Coin B is going to be thrown
4000 times.**

- (c) Work out an estimate for the
number of times coin B will land
on Heads.
(2 marks)**

(Total for Question 16 is 5 marks)

Turn over

17. There are 84 calories in 100 grams of banana.

There are 87 calories in 100 grams of yogurt.

Priti has 60 grams of banana and 150 grams of yogurt for breakfast.

Work out the total number of calories in this breakfast.

(4 marks)

Answer space continues on the next two pages.

17. continued.

Turn over

17. continued.

(Total for Question 17 is 4 marks)

Turn over

18. Machine **A** and machine **B** both make car parts.

Machine **A** makes **6** parts every **10** minutes.

Machine **B** makes **13** parts every **15** minutes.

On Monday

machine **A** makes parts for **12** hours

machine **B** makes parts for **10** hours

Work out the total number of parts made by the two machines on Monday.

(4 marks)

Answer space is on the next three pages.

Turn over

18. continued.

Turn over

18. continued.

Turn over

18. continued.

(Total for Question 18 is 4 marks)

Turn over

- 19. Look at the diagram for Question 19 in the Diagram Book.**

It shows a plan of a kitchen drawn to a scale of 1 : 30

Sam is going to put a small table in the kitchen.

**The table has to be
more than 180 cm from A
more than 150 cm from BC**

**Show, by shading on the diagram, the region where Sam can put the table.
Answer space is on the next page.**

Turn over

19. continued.

(Total for Question 19 is 4 marks)

Turn over

20. (a) Solve

$$14n > 11n + 6$$

(2 marks)

(continued on the next page)

Turn over

20. continued.

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

**On the number line, show the set
of values of x for which**

$$\mathbf{-2 < x + 3 \leq 4}$$

(3 marks)

(Total for Question 20 is 5 marks)

Turn over

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

On the grid, draw the graph of $y = 2x - 3$ for values of x from -2 to 4

(Total for Question 21 is 3 marks)

Turn over

22. Look at the table for Question 22 in the Diagram Book.

Hannah is planning a day trip for 195 students.

She asks a sample of 30 students where they want to go.

Each student chooses one place.

The table shows information about her results.

(continued on the next page)

22. continued.

- (i) Work out how many of the
195 students you think will want
to go to the Theme Park.**

(2 marks)

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

Turn over

22. (i) continued.

(continued on the next page)

Turn over

22. continued.

**(ii) State any assumption you made
AND explain how this may affect
your answer.**

(1 mark)

(Total for Question 22 is 3 marks)

Turn over

23. Look at the diagram for Question 23 in the Diagram Book.

It shows a container in the shape of a cuboid, with length 30 cm, width 6 cm, and height 19 cm

The container is $\frac{2}{3}$ full of water.

A cup holds 275 ml of water.

What is the greatest number of cups that can be completely filled with water from the container?

(4 marks)

Answer space is on the next two pages.

Turn over

23. continued.

Turn over

23. continued.

(Total for Question 23 is 4 marks)

Turn over

- 24. Look at the diagram for Question 24 in the Diagram Book.**

ABC is a right-angled triangle.

AC = 16 cm

Angle ACB = 38°

Angle ABC is a right angle.

Calculate the length of AB

Give your answer correct to

2 decimal places.

(2 marks)

Answer space continues on the next page.

Turn over

24. continued.

_____ **cm**

(Total for Question 24 is 2 marks)

Turn over

25. Sally used her calculator to work out the value of a number y

The answer on her calculator display began

8.3

Complete the error interval for y

_____ $\leq y <$ _____

(Total for Question 25 is 2 marks)

Turn over

26. **£360** is shared between Abby, Ben, Chloe and Denesh.

The ratio of the amount Abby gets to the amount Ben gets is **2 : 7**

Chloe and Denesh each get **1.5** times the amount Abby gets.

Work out the amount of money that Ben gets.

(4 marks)

Answer space continues on the next two pages.

26. continued.

Turn over

26. continued.

£ _____

(Total for Question 26 is 4 marks)

Turn over

27. (a) Write

0.00562 in standard form.

(1 mark)

(b) Write

**1.452×10^3 as an ordinary
number.**

(1 mark)

(Total for Question 27 is 2 marks)

Turn over

28. Here are the first five terms of a Fibonacci sequence.

3 3 6 9 15

(a) Write down the next two terms of the sequence.

(1 mark)

_____ , _____

(continued on the next page)

Turn over

28. continued.

**The first three terms of a different
Fibonacci sequence are**

a a $2a$

**(b) Find the 6th term of this
sequence.**

(2 marks)

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

Turn over

28. (b) continued.

(Total for Question 28 is 3 marks)

Turn over

29.

$$\mathbf{a} = \begin{pmatrix} 4 \\ 5 \end{pmatrix}$$

$$\mathbf{b} = \begin{pmatrix} 3 \\ 2 \end{pmatrix}$$

Work out $\mathbf{a} - 2\mathbf{b}$ as a column vector.

$$\begin{pmatrix} \\ \\ \end{pmatrix}$$

(Total for Question 29 is 2 marks)

Turn over

TOTAL FOR PAPER IS 80 MARKS

END OF PAPER
