

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

Total Marks

Mathematics
Paper 1
(Non-Calculator)
Foundation Tier

Tuesday 19 May 2020 – 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					

YOU MUST HAVE

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

YOU WILL BE GIVEN

Diagram Book

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 NOT BE USED.

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 27
It is NOT accurate.**

You may be provided with a shape for Question 11

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.

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. Write the following four numbers in order of size.
Start with the smallest number.

0.32

0.4

0.35

0.309

(Total for Question 1 is 1 mark)

2. Here is a list of five numbers.

5

11

18

22

29

From the list, write down a multiple of 3

(Total for Question 2 is 1 mark)

3. Write

4.666 correct to the nearest whole number.

(Total for Question 3 is 1 mark)

4. Write

$\frac{3}{4}$ as a decimal.

(Total for Question 4 is 1 mark)

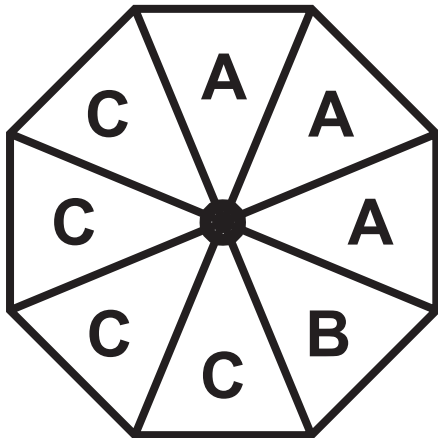
5. Write down the value of the 7 in the number 8765

(Total for Question 5 is 1 mark)

6. Look at the diagrams for Question 6 in the Diagram Book.

They show two probability scales.

Gita spins a fair 8-sided spinner.



- (a) On the probability scale for Question 6(a), mark the probability that the spinner will land on **C** (1 mark)
- (b) On the probability scale for Question 6(b), mark the probability that the spinner will land on **D** (1 mark)

(Total for Question 6 is 2 marks)

- 7. Look at the diagram for Question 7 in the Diagram Book.**

It is an incomplete pictogram which shows information about the number of eggs sold from a farm shop on Monday.

On Monday the shop sold 18 eggs.

On Tuesday the shop sold 24 eggs.

On Wednesday the shop sold 27 eggs.

Use this information to complete the pictogram and the key.

(Total for Question 7 is 4 marks)

Turn over

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

It shows point **A** and point **B** on a coordinate grid.

- (a) Write down the coordinates of the point **A**
(1 mark)

(_____ , _____)

- (b) Write down the coordinates of the point **B**
(1 mark)

(_____ , _____)

- (c) On the grid, mark the point $(-2, 1)$
Label this point **C**
(1 mark)

(Total for Question 8 is 3 marks)

9. (a) A bag contains red counters and blue counters only.

number of red counters : number of blue counters = 3 : 4

Write down the fraction of the counters that are red.

(1 mark)

(continued on the next page)

9. continued.

- (b) Write the ratio **12 : 30** in the form **1 : n**
(2 marks)

(Total for Question 9 is 3 marks)

10. Jenny has 12 marbles.

$\frac{1}{4}$ of these 12 marbles are large.

The rest of these 12 marbles are small.

Each large marble has a weight of 70 grams.

Each small marble has a weight of 50 grams.

Work out the total weight of the 12 marbles.

(4 marks)

Answer space continues on the next page.

10. continued.

_____ grams

(Total for Question 10 is 4 marks)

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

It shows a shaded shape on a grid.

Reflect the shaded shape in the mirror line.

You do not need to shade your shape.

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

(Total for Question 11 is 2 marks)

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

It shows a number machine.

- (a) Find the output when the input is 7**
(1 mark)

(continued on the next page)

12. continued.

- (b) Find the input when the output is 41**
(2 marks)

(Total for Question 12 is 3 marks)

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

It is accurately drawn.

The diagram shows two points, **A and **B**, on a map.**

(a) Find the bearing of **B from **A****

(1 mark)



(continued on the next page)

13. continued.

(b) Work out the real distance between A and B

Give your answer in kilometres.

(3 marks)

_____ kilometres

(Total for Question 13 is 4 marks)

14. Look at the table for Question 14 in the Diagram Book.

Ishmael asked 30 students at college to tell him the sport they each like the best from cricket or tennis or swimming.

11 of the 20 female students said swimming.

2 of the male students said tennis.

5 students said cricket.

The number of male students who said cricket was the same as the number of male students who said swimming.

**Complete the two-way table in the Diagram Book.
There are ten spaces to fill.**

(Total for Question 14 is 3 marks)

15. Jamil makes a drink by mixing
1 part of orange squash with 9 parts of water.

He uses 750 millilitres of orange squash.

Jamil is going to put the drink he has mixed into
1 litre bottles.

Work out the greatest number of 1 litre bottles that
Jamil can completely fill.

(3 marks)

Answer space continues on the next page.

15. continued.

(Total for Question 15 is 3 marks)

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

It gives information about the number of points scored by each of 16 students in a game.

Tina worked out the median of the number of points scored to be 5

- (a) Explain why it is NOT possible for the median to be 5**
(1 mark)

(continued on the next page)

16. continued.

Tina also worked out the total number of points scored by the 16 students in the game.

Here is her working.

$$(0 \times 1) + (1 \times 3) + (2 \times 5) + (3 \times 4) + (4 \times 3) \\ = 1 + 3 + 10 + 12 + 12 = 38$$

Tina made a mistake in her working to find the total number of points scored.

(b) Describe the mistake that Tina made.

(1 mark)

(Total for Question 16 is 2 marks)

17. In a shop, a TV has a normal price of £500

The shop has a sale.

**On Monday, the normal price of the TV is reduced
by $\frac{1}{10}$ to give the sale price.**

**On Tuesday, the sale price of the TV is reduced by
20%**

Chris wants to buy the TV.

He has £400 to spend on the TV.

**Does Chris have enough money to buy the TV on
Tuesday?**

You must show how you get your answer.

(5 marks)

Answer space continues on the next two pages.

17. continued.

17. continued.

(Total for Question 17 is 5 marks)

18. Work out an estimate for

$$\frac{790 \times 289}{49}$$

(Total for Question 18 is 3 marks)

Turn over

19. (a) Expand
 $x(x - 4)$
(1 mark)
-

- (b) Factorise
 $15y - 10$
(1 mark)
-

(continued on the next page)

19. continued.

(c) Solve

$$7(p - 5) = 28$$

(2 marks)

$p =$ _____

(Total for Question 19 is 4 marks)

20. The first five terms of an arithmetic sequence are

1 4 7 10 13

Write down an expression, in terms of n , for the n th term of this sequence.

(Total for Question 20 is 2 marks)

21. Show that

$$2\frac{1}{3} \times 3\frac{3}{4} = 8\frac{3}{4}$$

(Total for Question 21 is 3 marks)

Turn over

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

It shows four graphs labelled graph **A**, graph **B**, graph **C** and graph **D**

Each of the equations in the table below is the equation of one of the graphs.

Complete the table.

Equation	Letter of graph
$y = -x^3$	
$y = x^3$	
$y = x^2$	
$y = \frac{1}{x}$	

(Total for Question 22 is 2 marks)

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

It shows four triangles.

Two of these triangles are congruent.

Write down the letters of these two triangles.

_____ and _____

(Total for Question 23 is 1 mark)

24. Sean pays £10 for 24 chocolate bars.

He sells all 24 chocolate bars for 50 pence each.

Work out Sean's percentage profit.

_____ %

(Total for Question 24 is 3 marks)

25. Look at the diagram for Question 25 in the Diagram Book.

It shows the triangle **ADC**

AED and **ABC** are straight lines.

EB is parallel to **DC**

Angle **EBC** = 148°

Angle **ADC** = 63°

Work out the size of angle **EAB**

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

(5 marks)

Answer space continues on the next page.

25. continued.

(Total for Question 25 is 5 marks)

26. Look at the table and the diagram for Question 26 in the Diagram Book.

The table shows information about the heights, in cm, of a group of girls in Year 9

The stem and leaf diagram shows information about the heights, in cm, of a group of 15 boys in Year 9

Compare the distribution of the heights of the girls with the distribution of the heights of the boys.

(Total for Question 26 is 3 marks)

27. Look at the diagram for Question 27 in the Diagram Book.

You may be provided with a model.

The diagram and the model show a prism placed on a horizontal floor.

The prism has height 3 metres.

The volume of the prism is 18 m^3

The pressure on the floor due to the prism is 75 newtons/m^2

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

**Work out the force exerted by the prism on the floor.
(3 marks)**

Answer space continues on the next page.

27. continued.

_____ newtons

(Total for Question 27 is 3 marks)

28. Write these four numbers in order of size.

Start with the smallest number.

$$6.72 \times 10^5$$

$$67.2 \times 10^{-4}$$

$$672 \times 10^4$$

$$0.000672$$

(Total for Question 28 is 2 marks)

29. Given that

$$\frac{w}{x} = \frac{2}{5} \quad \text{and} \quad \frac{x}{y} = \frac{3}{4}$$

find $w:x:y$

(Total for Question 29 is 3 marks)

Turn over

30. (a) Make q the subject of
 $p = 6q + 7$
(2 marks)

(continued on the next page)

30. continued.

- (b) Simplify
 $(m^{-2})^{-3}$
(1 mark)

(Total for Question 30 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS

END OF PAPER
