

Paper Reference 4MA1/2F
Pearson Edexcel
International GCSE

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|-------------|
| Total Marks |
|-------------|

Mathematics A
Paper 2F
(Calculator)
Foundation Tier

Thursday 4 June 2020 – Morning
Time: 2 hours 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, calculator. Tracing paper may be used.

YOU WILL BE GIVEN

**Diagram Book
Formulae Pages**

Turn over

INSTRUCTIONS

Answer ALL questions.

Without sufficient working, correct answers may be awarded no marks.

Answer the questions in the spaces provided in this Question Paper or on the separate diagrams – there may be more space than you need.

CALCULATORS MAY BE USED.

You must NOT write anything on the Formulae Pages. Anything you write on the Formulae Pages will gain NO credit.

Turn over

INFORMATION

The total mark for this paper is 100

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.

You may be provided with a model for Question 24

ADVICE

Read each question carefully before you start to answer it.

Check your answers if you have time at the end.

Answer ALL TWENTY FOUR questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. Here is a list of eight numbers.

| | | | |
|-----------|-----------|-----------|-----------|
| 1 | 17 | 21 | 25 |
| 26 | 31 | 39 | 64 |

From this list, write down

(a) an even number

(1 mark)

(b) a multiple of 3

(1 mark)

(continued on the next page)

Turn over

1. continued.

Remember:

Here is a list of eight numbers.

| | | | |
|-----------|-----------|-----------|-----------|
| 1 | 17 | 21 | 25 |
| 26 | 31 | 39 | 64 |

From this list, write down

(c) a prime number

(1 mark)

(continued on the next page)

Turn over

1. continued.

Remember:

Here is a list of eight numbers.

| | | | |
|-----------|-----------|-----------|-----------|
| 1 | 17 | 21 | 25 |
| 26 | 31 | 39 | 64 |

(d) From this list, write down a cube number
(1 mark)

(Total for Question 1 is 4 marks)

Turn over

- 2. (a) Change 3 litres into millilitres.**
(1 mark)

_____ millilitres

(continued on the next page)

2. continued.

(b) Change 6500 grams into kilograms.

(1 mark)

_____ kilograms

(Total for Question 2 is 2 marks)

Turn over

3. Look at the table for Question 3 in the Diagram Book.

It shows an incomplete frequency table.

Paula asks 16 members of her class the number of pets they each have.

Here are her results.

| | | | |
|----------|----------|----------|----------|
| 1 | 2 | 2 | 4 |
| 0 | 1 | 2 | 1 |
| 3 | 3 | 4 | 1 |
| 1 | 0 | 3 | 2 |

(continued on the next page)

3. continued.

(a) Complete the frequency table for her results in the Diagram Book. There are ten spaces to fill.

(2 marks)

(b) Write down the mode for the number of pets.

(1 mark)

(continued on the next page)

Turn over

3. continued.

**(c) Work out the range for the
number of pets.**

(1 mark)

(Total for Question 3 is 4 marks)

Turn over

4. Look at the table for Question 4 in the Diagram Book.

It gives the minimum temperature for January 2018 in each of five cities.

(a) Which of these five cities has the lowest minimum temperature?

(1 mark)

(continued on the next page)

4. continued.

(b) Work out the difference between the minimum temperature of Donetsk and the minimum temperature of Sydney.

(1 mark)

_____°C

(continued on the next page)

Turn over

4. continued.

**The minimum temperature in
Edmonton for January 2018 was
50°C less than the minimum
temperature in Mombasa for
January 2018**

**(c) Work out the minimum
temperature in Edmonton for
January 2018**

(1 mark)

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

4. (c) continued.

_____°C

(Total for Question 4 is 3 marks)

Turn over

5. (a) Write these five decimals in order of size.

Start with the smallest decimal.

(1 mark)

0·9

0·035

0·003

0·539

0·5

(continued on the next page)

Turn over

5. continued.

(b) Write

0·6 as a percentage.

(1 mark)

_____ %

(continued on the next page)

Turn over

5. continued.

(c) Write

$\frac{60}{7}$ as a mixed number.

(1 mark)

(continued on the next page)

Turn over

5. continued.

(d) Work out the difference between

$$\frac{19}{20} \text{ and } 0.68$$

Give your answer as a decimal.

(2 marks)

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

Turn over

5. (d) continued.

(Total for Question 5 is 5 marks)

Turn over

6. Here are the first five terms of a number sequence.

3 7 11 15 19

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

(1 mark)

(continued on the next page)

6. continued.

(b) Explain how you worked out your answer.

(1 mark)

(c) Find the first number greater than 70 that is in the sequence.
(2 marks)

(continued on the next page)

Turn over

6. continued.

Ada says,

“96 is a number in the sequence”

(d) Is Ada correct?

You must give a reason for your answer.

(1 mark)

Answer space and lines continue on the next page.

6. (d) continued.

(Total for Question 6 is 5 marks)

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

It shows three points, A, B and C, marked on a grid.

(a) Write down the coordinates of point A

(1 mark)

(_____ , _____)

(continued on the next page)

7. continued.

**The coordinates of the point D
are $(-2, -4)$**

**(b) On the grid, mark the position
of D**

Label the point D

(1 mark)

(continued on the next page)

7. continued.

- (c) Find the coordinates of the
midpoint of BC
(2 marks)**

(_____ , _____)

- (d) On the grid, draw the line with
equation $x = 4$
(1 mark)**

(Total for Question 7 is 5 marks)

Turn over

- 8. Look at the table for Question 8 in the Diagram Book.**

Lucas is going on a country walk.

Lucas works out how long each part of his walk will take.

This information is shown in the table in the Diagram Book.

Lucas leaves home at 11 10

At what time will Lucas get home?

(3 marks)

Answer space continues on the next two pages.

8. continued.

Turn over

8. continued.

(Total for Question 8 is 3 marks)

Turn over

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

It shows a conversion graph to change between metres and feet.

(a) Use the graph to change

(i) 20 metres to feet,

_____ feet

(ii) 50 feet to metres.

_____ metres

(2 marks)

(continued on the next page)

Turn over

9. continued.

Joss lives 820 metres above sea level.

Nicky lives 2850 feet above sea level.

**(b) Which is the greater, 820 metres
or 2850 feet?**

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

(2 marks)

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

Turn over

9. (b) continued.

(Total for Question 9 is 4 marks)

Turn over

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

Hugo records the number of pairs of trainers sold in each of four shoe shops last Saturday.

He is going to draw a pie chart for his results.

The incomplete table in the Diagram Book shows two of Hugo's results and the sizes of three of the angles in his pie chart.

(continued on the next page)

10. continued.

Complete the table.

There are three spaces to fill.

(4 marks)

**Working out space continues on the
next page.**

10. continued.

(Total for Question 10 is 4 marks)

Turn over

11. Work out

23% of 450 millilitres.

_____ millilitres

(Total for Question 11 is 2 marks)

Turn over

12. (a) Write down all the factors of 9
(1 mark)

(continued on the next page)

Turn over

12. continued.

- (b) Find the lowest common multiple (LCM) of 15 and 70**
(2 marks)

Answer space continues on the next page.

12. (b) continued.

(Total for Question 12 is 3 marks)

Turn over

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

It is NOT accurately drawn.

It shows the plan of Sophia's gym floor labelled ABCD

$AB = 20$ metres,

$AD = 12$ metres,

$DC = 26$ metres.

All the marked angles are right angles.

(continued on the next page)

13. continued.

Sophia is going to paint all the gym floor.

Each tin of paint she is going to use covers an area of 20 m^2

There is a special offer on the paint that Sophia is going to buy.

SPECIAL OFFER

1 tin for \$13

4 tins for \$40

(continued on the next page)

Turn over

13. continued.

Work out the least amount of money that Sophia has to pay in order to buy all the paint she needs.

Show your working clearly.

(5 marks)

Answer space continues on the next page.

Turn over

13. continued.

\$_____

(Total for Question 13 is 5 marks)

Turn over

- 14. (a) Factorise**
 $25x - 10$
(1 mark)
-

(continued on the next page)

14. continued.

(b) Make y the subject of the formula

$$\mathbf{p = 5y - w}$$

(2 marks)

(continued on the next page)

Turn over

14. continued.

(c) Solve the inequality

$$4t + 7 > 2$$

(2 marks)

(Total for Question 14 is 5 marks)

Turn over

15. Show that

$$\frac{2}{5} \div \frac{11}{20} = \frac{8}{11}$$

(2 marks)

Answer space continues on the next page.

15. continued.

(Total for Question 15 is 2 marks)

Turn over

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

It shows information about the lengths of time, in minutes, 120 customers spent in a supermarket.

**(a) Write down the modal class.
(1 mark)**

(continued on the next page)

Turn over

16. continued.

(b) Work out an estimate for the mean length of time spent by the 120 customers in the supermarket.

(4 marks)

Answer space continues on the next page.

Turn over

16. (b) continued.

_____ minutes

(Total for Question 16 is 5 marks)

Turn over

**17. Look at the information for
Question 17 in the Diagram Book.
It shows a list of ingredients needed
to make apple crumble for 6 people.**

**Nadiya wants to make apple crumble
for 14 people.**

**(a) Work out the amount of butter
she needs.**

(2 marks)

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

17. (a) continued.

_____ grams

(continued on the next page)

Turn over

17. continued.

Alison makes apple crumble for a group of people.

She uses 630 grams of oats.

(b) Work out the number of people in the group.

(2 marks)

Answer space continues on the next page.

Turn over

17. (b) continued.

(continued on the next page)

17. continued.

At a cake sale, Michael sells some lemon cakes and some chocolate cakes.

**the number of lemon cakes he sells :
the number of chocolate cakes he
sells = 2 : 7**

Michael sells a total of 162 cakes.

(continued on the next page)

17. continued.

(c) Work out the number of lemon cakes Michael sells.

(2 marks)

(Total for Question 17 is 6 marks)

Turn over

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

It is NOT accurately drawn.

It shows a parallelogram ABCD and an isosceles triangle DEF in which $DE = DF$

CDF and ADE are straight lines.

Angle BCD = 58°

Work out the size of angle DEF

Give a reason for each stage of your working.

(5 marks)

Answer space is on the next two pages.

Turn over

18. continued.

Turn over

18. continued.

○

(Total for Question 18 is 5 marks)

Turn over

19. Andreas, Isla and Paulo share some money in the ratios $3 : 2 : 5$

The TOTAL amount of money that Isla and Paulo receive is £76 more than the amount of money that Andreas receives.

Andreas buys a video game for £48.50 with some of his share of the money.

(continued on the next page)

19. continued.

Work out how much money Andreas has left from his share of the money when he has bought the video game.

(4 marks)

Answer space continues on the next two pages.

19. continued.

Turn over

19. continued.

£ _____

(Total for Question 19 is 4 marks)

Turn over

**20. Himari's annual salary is
3 130 000 Japanese Yen (JPY)
She gets a salary increase of 4%**

**(a) Work out Himari's salary after
this increase.**

(3 marks)

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

20. (a) continued.

_____ **JPY**

(continued on the next page)

Turn over

20. continued.

Kaito bought a car.

**The value of the car when Kaito
bought it was 750 000 JPY**

**At the end of each year, the value of
his car had depreciated by 15%**

**(b) Work out the value of Kaito's car
at the end of 3 years.**

**Give your answer correct to the
nearest JPY**

(3 marks)

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

20. (b) continued.

Turn over

20. (b) continued.

_____ **JPY**

(Total for Question 20 is 6 marks)

Turn over

- 21. (a) Simplify**
 $m^6 \times m^4$
(1 mark)
-

- (b) Simplify**
 $(3pq^4)^2$
(2 marks)
-

(continued on the next page)

Turn over

21. continued.

(c) Solve the simultaneous equations

$$4x + 3y = 17$$

$$x + 2y = 5$$

Show clear algebraic working.

(3 marks)

Answer space continues on the next two pages.

Turn over

21. (c) continued.

Turn over

21. (c) continued.

$x =$ _____

$y =$ _____

(Total for Question 21 is 6 marks)

Turn over

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

It is NOT accurately drawn.

It shows a right-angled triangle ABC

$$\text{AC} = 3.4 \text{ cm}$$

$$\text{CB} = 4.7 \text{ cm}$$

Angle ACB is a right angle.

Angle ABC is marked x°

Calculate the value of x

Give your answer correct to one decimal place.

(3 marks)

Answer space is on the next three pages.

Turn over

22. continued.

Turn over

22. continued.

Turn over

22. continued.

x = _____

(Total for Question 22 is 3 marks)

Turn over

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

It is NOT accurately drawn.

It shows an isosceles triangle PQR

$$\mathbf{PQ = PR = 8.5 \text{ cm}}$$

$$\mathbf{RQ = 8 \text{ cm}}$$

Work out the area of the triangle.

(4 marks)

Answer space continues on the next two pages.

23. continued.

Turn over

23. continued.

_____ **cm²**

(Total for Question 23 is 4 marks)

Turn over

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

You may be provided with a model.

They are NOT accurate.

They show a solid cylinder with radius 3 metres.

The volume of the cylinder is $72\pi\text{m}^3$

Calculate the TOTAL surface area of the cylinder.

Give your answer correct to 3 significant figures.

(5 marks)

Answer space is on the next page.

24. continued.

_____ m^2

(Total for Question 24 is 5 marks)

Turn over

TOTAL FOR PAPER IS 100 MARKS

END OF PAPER
