

Paper Reference 4MA1/2F
Pearson Edexcel
International GCSE

Total Marks

Mathematics A
PAPER: 2F
Foundation Tier
(Calculator)

Time: 2 hours

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

Surname					
Other names					
Centre Number					
Candidate Number					

Y68797RA

YOU MUST HAVE

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

YOU WILL BE GIVEN

**Diagram Booklet
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 in case you need them.

You may be provided with six shapes for Question 2

You may be provided with a shape for Question 14

Turn over

ADVICE

Read each question carefully before you start to answer it.

Check your answers if you have time at the end.

Turn over

Answer ALL TWENTY EIGHT questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. (a) Write

0.3 as a percentage.

(1 mark)

_____ %

(b) Write

$\frac{29}{100}$ as a decimal.

(1 mark)

(continued on the next page)

Turn over

1. continued.

(c) Write

$\frac{17}{20}$ as a decimal.

(1 mark)

(continued on the next page)

Turn over

1. continued.

(d) Write the five numbers below in order of size.

Start with the smallest number.

-7 8 -9 16 -3

(1 mark)

(continued on the next page)

Turn over

1. continued.

(e) Write the five numbers below in order of size.

Start with the smallest number.

0·044 0·104 0·04

0·009 0·2

(1 mark)

(continued on the next page)

Turn over

1. continued.

There are **400** cars in a car park.

$\frac{3}{10}$ of the cars are grey.

(f) Work out how many of the cars in the car park are **NOT** grey.

(2 marks)

(Total for Question 1 is 7 marks)

Turn over

- 2. Look at the diagram for Question 2 in the Diagram Booklet.**

It shows six shapes on a grid labelled A, B, C, D, E and F

1 square length on the grid represents 1 cm

Six cut out shapes may be available if you wish to use them.

- (a) Write down the letters of the two shapes that are congruent.**

(1 mark)

_____ and _____

(continued on the next page)

Turn over

2. continued.

Two of the six shapes are similar but are not congruent.

(b) Write down the letters of these two shapes.

(1 mark)

_____ and _____

(continued on the next page)

Turn over

2. continued.

Shape E has exactly one line of symmetry.

(c) On shape E on the grid in the Diagram Booklet, draw this line of symmetry.

(1 mark)

(d) Work out the perimeter of shape B

(1 mark)

_____ cm

(continued on the next page)

Turn over

2. continued.

(e) Work out the area of shape F
(1 mark)

_____ **cm²**

(Total for Question 2 is 5 marks)

Turn over

3. Below are the first five terms of a number sequence.

7 13 19 25 31

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

(1 mark)

(continued on the next page)

Turn over

3. (a) continued.

Remember:

Below are the first five terms of a number sequence.

7 13 19 25 31

**(ii) Explain how you found your
answer to part (a)(i)
(1 mark)**

(continued on the next page)

Turn over

3. continued.

Remember:

Below are the first five terms of a number sequence.

7 13 19 25 31

The 30th term of the sequence is 181

(b) Work out the 28th term of the sequence.

(1 mark)

Answer space continues on the next page.

Turn over

3. (b) continued.

(continued on the next page)

Turn over

3. continued.

Remember:

Below are the first five terms of a number sequence.

7 13 19 25 31

Brian says that 96 is a number in the sequence.

Brian is wrong.

(c) Explain why.

(1 mark)

Answer space continues on the next page.

Turn over

3. (c) continued.

(Total for Question 3 is 4 marks)

Turn over

- 4. Look at the diagram for Question 4 in the Diagram Booklet.**

It is a bar chart which shows information about the weight, in millions of tonnes, of the potatoes produced by each of four countries in 2016

In 2016, one of these four countries produced 10 million tonnes of potatoes.

(continued on the next page)

Turn over

4. continued.

(a) Which country?

(1 mark)

**In 2016, Country E produced
5 million tonnes of potatoes.**

**(b) Draw a bar on the bar chart in
the Diagram Booklet to show this
information.**

(1 mark)

(continued on the next page)

Turn over

4. continued.

In 2016, the weight of potatoes produced by Country C was greater than the weight of potatoes produced by the Country A.

(c) How many million tonnes greater?

(1 mark)

_____ million tonnes

(Total for Question 4 is 3 marks)

Turn over

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

Jian has two fair spinners as shown in the diagram.

Spinner **A** is 3-sided and can land on 1, 2 or 3

Spinner **B** is 5-sided and can land on 2, 4, 6, 8 or 10

Jian spins each spinner once.

He adds together the number that spinner **A** lands on and the number that spinner **B** lands on to get his total score.

(continued on the next page)

Turn over

5. continued.

**(a) Complete the table in the
Diagram Booklet to show all
possible total scores.**

**Five of the total scores have
been done for you.**

There are ten spaces to fill.

(2 marks)

(continued on the next page)

Turn over

5. continued.

(b) Find the probability that

**(i) Jian's total score is an
odd number**

(1 mark)

**(ii) Jian's total score is less
than 9**

(1 mark)

(Total for Question 5 is 4 marks)

Turn over

- 6. Look at the information for Question 6 in the Diagram Booklet. It shows two special offers for buying dog food.**

Gaspar buys 24 tins of dog food using special offer A

Anna buys 24 tins of dog food using special offer B

Work out the difference between the amount that Gaspar pays and the amount that Anna pays.

(4 marks)

Answer space is on the next two pages.

Turn over

6. continued.

Turn over

6. continued.

\$ _____

(Total for Question 6 is 4 marks)

Turn over

7. A circle has radius 6.5 cm

Calculate the circumference of the circle.

Give your answer correct to 3 significant figures.

_____ cm

(Total for Question 7 is 2 marks)

Turn over

8. Mairi has 200 flowers.

Of these flowers

37 are white

25 are yellow

42 are pink

The rest of the flowers are red.

**Express the number of red flowers
as a fraction of the total number of
flowers.**

**Give your fraction in its simplest
form.**

(3 marks)

Answer space is on the next page.

Turn over

8. continued.

(Total for Question 8 is 3 marks)

Turn over

9. **3 cups each contain 200 millilitres of water.**

4 jugs each contain x millilitres of water.

Emma pours all the water from the 3 cups and the 4 jugs into a container.

The total amount of water that Emma pours into the container from the 3 cups and 4 jugs is 3.5 litres.

Work out the value of x
(4 marks)

Answer space is on the next two pages.

Turn over

9. continued.

Turn over

9. continued.

X = _____

(Total for Question 9 is 4 marks)

Turn over

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

It shows a kite drawn on a grid and a blank grid.

1 square length on the grids represents 1 cm

On the blank grid in the Diagram Booklet, draw a rectangle that has the same area as the kite.

(3 marks)

Space for working continues on the next page.

10. continued.

(Total for Question 10 is 3 marks)

Turn over

11. (a) Simplify

$$r \times r \times r \times r \times r \times r$$

(1 mark)

(b) Simplify

$$2q^3 + 5q^3 - q^3$$

(1 mark)

(continued on the next page)

Turn over

11. continued.

- (c) Expand**
 $n(n + 5)$
(1 mark)
-

- (d) Factorise**
 $9y - 12$
(1 mark)
-

(continued on the next page)

Turn over

11. continued.

**Rosanna sells m small bags
of marbles and p large bags of
marbles.**

**Each small bag contains 15 marbles.
Each large bag contains 40 marbles.**

**The total number of marbles that
Rosanna sells is T**

**(e) Write down a formula for T in
terms of m and p
(3 marks)**

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

Turn over

11. (e) continued.

(Total for Question 11 is 7 marks)

Turn over

12. Ingrid buys a bag in Sweden.

The price of the bag is

1342 Swedish Krona.

The price of an identical bag in

Finland is 125 euros.

(continued on the next page)

12. continued.

Using an exchange rate of

1 euro = 11 Swedish Krona

**work out how much cheaper the bag
is in Sweden than it is in Finland.**

**You must give the units of your
answer.**

(3 marks)

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

Turn over

12. continued.

(Total for Question 12 is 3 marks)

Turn over

- 13. Hazel is buying a snack and a drink. She can have a bar of chocolate (B) or some fruit (F) or a packet of crisps (C) as her snack.**

She can have orange juice (O) or apple juice (A) or water (W) as her drink.

Write down all the possible combinations Hazel can have.

(2 marks)

Answer lines continue on the next page.

13. continued.

(Total for Question 13 is 2 marks)

Turn over

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

It shows shape **A and shape **B** on a grid.**

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

- (a) Describe fully the single transformation that maps shape **A** onto shape **B****
(2 marks)

(continued on the next page)

Turn over

14. continued.

- (b) On the grid in the
Diagram Booklet, reflect shape **A**
in the line with equation $x = -1$
(2 marks)**

(Total for Question 14 is 4 marks)

Turn over

15. Use your calculator to work out the value of

$$\frac{5 \cdot 21 + 6 \cdot 37}{9 \cdot 8} + 8 \cdot 3^2$$

Write down all the figures on your calculator display.

(Total for Question 15 is 2 marks)

Turn over

16. Look at the diagram for Question 16 in the Diagram Booklet.

It shows an incomplete Venn diagram.

$$\mathcal{U} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$$

$$A = \{2, 3, 7, 8, 9\}$$

$$B = \{1, 2, 4, 5, 7, 8, 10\}$$

Complete the Venn diagram in the Diagram Booklet for this information.

(Total for Question 16 is 3 marks)

17. Below are six integers where

$$w < x < y < z$$

w x y z z z

The mode of the integers is 9

The median of the integers is 8

The range of the integers is 4

Work out the value of **w**, the value of **x**, the value of **y** and the value of **z**
(3 marks)

Answer space continues on the next two pages.

Turn over

17. continued.

Turn over

17. continued.

w = _____

x = _____

y = _____

z = _____

(Total for Question 17 is 3 marks)

Turn over

**18. (a) Look at the diagram for
Question 18 in the
Diagram Booklet.**

It shows a grid.

**On the grid, draw and label with
its equation the straight line with
equation**

(i) $y = 1$

(ii) $x = 2$

(iii) $x + y = 7$

(3 marks)

(continued on the next page)

Turn over

18. continued.

(b) Show, on the grid in the Diagram Booklet, the region that satisfies ALL THREE of the inequalities below

$$y \geq 1$$

$$x \geq 2$$

$$x + y \leq 7$$

Label the region R

(1 mark)

(Total for Question 18 is 4 marks)

Turn over

- 19. An aeroplane travelled from New York City to Los Angeles.**

The aeroplane travelled a distance of 3980 kilometres in 5 hours 24 minutes.

Work out the average speed of the aeroplane.

Give your answer in kilometres per hour correct to the nearest whole number.

(3 marks)

Answer space is on the next two pages.

Turn over

19. continued.

Turn over

19. continued.

_____ kilometres per hour

(Total for Question 19 is 3 marks)

Turn over

20. Show that

$$5\frac{1}{3} - 2\frac{6}{7} = 2\frac{10}{21}$$

(3 marks)

Answer space continues on the next page.

Turn over

20. continued.

(Total for Question 20 is 3 marks)

Turn over

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

It is NOT accurately drawn.

It shows an 8-sided shape $ABCDEFGH$

$HG = 28 \text{ cm}$

$AH = FG = 12 \text{ cm}$

$AB = EF = 5 \text{ cm}$

The height of the shape is 20 cm

CD is parallel to HG

AH is parallel to FG

All the marked angles are right angles.

(continued on the next page)

Turn over

21. continued.

The area of shape **ABCDEFGH** is
 434 cm^2

Find the length of CD

(4 marks)

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

Turn over

21. continued.

Turn over

21. continued.

_____ **cm**

(Total for Question 21 is 4 marks)

Turn over

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

It is NOT accurately drawn.

It shows triangle PQR

$$\mathbf{PR = 9.5 \text{ cm}}$$

$$\mathbf{PQ = x \text{ cm}}$$

$$\mathbf{\text{Angle } QPR = 42^\circ}$$

Angle PQR is a right angle.

Work out the value of x

Give your answer correct to one decimal place.

(3 marks)

Answer space is on the next page.

Turn over

22. continued.

X = _____

(Total for Question 22 is 3 marks)

Turn over

**23. Change a speed of
81 kilometres per hour to a speed in
metres per second.**

(3 marks)

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

23. continued.

_____ metres per second

(Total for Question 23 is 3 marks)

Turn over

**24. Look at the information for
Question 24 in the Diagram Booklet.**

**Work out what fraction of the
300 celebration cards have numbers
on them.**

**Give your answer in its simplest form.
(5 marks)**

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

Turn over

24. continued.

Turn over

24. continued.

(Total for Question 24 is 5 marks)

Turn over

- 25. Pasha invests 50 000 dollars in a savings account for 4 years. He gets $1 \cdot 3\%$ per year compound interest.**

Work out how much money Pasha will have in his savings account at the end of 4 years.

Give your answer correct to the nearest dollar.

(3 marks)

Answer space continues on the next two pages.

25. continued.

Turn over

25. continued.

_____ dollars

(Total for Question 25 is 3 marks)

Turn over

26. Solve the simultaneous equations

$$7x + 3y = 3$$

$$3x - y = 7$$

Show clear algebraic working.

(3 marks)

Answer space continues on the next page.

Turn over

26. continued.

x = _____

y = _____

(Total for Question 26 is 3 marks)

Turn over

27. (i) Factorise

$$x^2 + 5x - 24$$

(2 marks)

(continued on the next page)

Turn over

27. continued.

(ii) Hence, solve

$$\mathbf{x^2 + 5x - 24 = 0}$$

(1 mark)

(Total for Question 27 is 3 marks)

Turn over

28. Larry is a delivery man.

He has 7 parcels to deliver.

**The mean weight of the 7 parcels is
2.7 kg**

Larry delivers 3 of the parcels.

**Each of these 3 parcels has a
weight of W kg**

**The mean weight of the other
4 parcels is 3.3 kg**

Work out the value of W

(3 marks)

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

Turn over

28. continued.

Turn over

28. continued.

W = _____

(Total for Question 28 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

END OF PAPER
