

Paper Reference 4MA1/2F
Pearson Edexcel
International GCSE

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

Mathematics A
PAPER 2F
Foundation Tier
(Calculator)

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.

**You may be provided with models for Question 2(c) and Question 24
They are NOT accurate.**

There may be spare copies of some diagrams.

Turn over

ADVICE

Read each question carefully before you start to answer it.

Check your answers if you have time at the end.

Good luck with your examination.

Answer ALL TWENTY FIVE questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. Look at the table for Question 1 in the Diagram Book.

It shows the length, in kilometres, of the coastline of each of five oceans.

- (a) Which of these oceans has the greatest length of coastline?

(1 mark)

(continued on the next page)

Turn over

1. continued.

(b) Write the number 17 968 in words.

(1 mark)

(continued on the next page)

Turn over

1. continued.

**(c) Write the number 66 526 correct
to the nearest thousand.**

(1 mark)

(continued on the next page)

Turn over

1. continued.

(d) Work out the total length of the coastlines of the Arctic Ocean and the Pacific Ocean.

(1 mark)

_____ **kilometres**

(Total for Question 1 is 4 marks)

Turn over

- 2. (a) Write down the order of rotational symmetry of a square.**

(1 mark)

(continued on the next page)

2. continued.

**(b) (i) Look at the diagram
for Question 2(b) in the
Diagram Book.**

**Measure the size of the angle
marked X**



**(ii) Write down the mathematical
name of this type of angle.**

(2 marks)

(continued on the next page)

Turn over

2. continued.

**Look at the diagram for Question 2(c)
in the Diagram Book.**

You may be provided with a model.

They show a 3-D shape.

(continued on the next page)

2. continued.

(c) (i) Write down the mathematical name of the 3-D shape.

(ii) How many edges does the shape have?

(2 marks)

(Total for Question 2 is 5 marks)

Turn over

- 3. Look at the diagram for Question 3 in the Diagram Book.**

It is a pictogram which gives some information about the number of parcels delivered by a delivery company on each of five days last week.

On Monday, the delivery company delivered 20 parcels.

Work out the total number of parcels delivered by the delivery company on these five days.

(4 marks)

Answer space is on the next two pages.

Turn over

3. continued.

Turn over

3. continued.

(Total for Question 3 is 4 marks)

Turn over

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

It shows a grid.

The points *A*, *B* and *C*, shown on the grid, are the vertices of triangle *ABC*

(a) Write down the coordinates of the point *B*

(1 mark)

(_____ , _____)

(continued on the next page)

Turn over

4. continued.

**(b) Write down the mathematical
name of triangle ABC
(1 mark)**

(continued on the next page)

4. continued.

The coordinates of point D are

$(1, -4)$

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

Label the point D

(1 mark)

(continued on the next page)

4. continued.

**(d) Find the coordinates of the
midpoint of AB
(2 marks)**

(_____ , _____)

(Total for Question 4 is 5 marks)

Turn over

5. Look at the diagram for Question 5(a) in the Diagram Book.

It shows a shape made of squares.

(a) Shade $\frac{3}{5}$ of the shape in the Diagram Book.

(1 mark)

(continued on the next page)

5. continued.

(b) Which one of these five fractions is NOT equivalent to $\frac{4}{7}$?

$$\frac{40}{70}$$

$$\frac{8}{14}$$

$$\frac{400}{700}$$

$$\frac{14}{17}$$

$$\frac{20}{35}$$

(1 mark)

(continued on the next page)

Turn over

5. continued.

(c) Write $\frac{3}{10}$ as a percentage.

(1 mark)

_____ %

(d) Write $\frac{77}{9}$ as a mixed number.

(1 mark)

(continued on the next page)

Turn over

5. continued.

Given that

$\frac{5}{6}$ of a number is 40

(e) what is the number?

(2 marks)

(Total for Question 5 is 6 marks)

Turn over

- 6. The cost of a mobile phone in the UK is £350**

The cost of an identical mobile phone in India is 28 938 rupees.

The exchange rate is £1 = 91 rupees.

The cost of the mobile phone in the UK is more than the cost of the mobile phone in India.

Work out how much more.

(3 marks)

Answer space continues on the next page.

6. continued.

(Total for Question 6 is 3 marks)

Turn over

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

It shows a menu at a restaurant.

Hassan is going to eat at the restaurant.

Hassan is going to choose one starter and one main course from the menu.

List all the possible combinations that Hassan can choose.

(2 marks)

Answer space and lines continue on the next page.

Turn over

7. continued.

(Total for Question 7 is 2 marks)

Turn over

8. (a) Simplify

$$w \times w \times w \times w \times w$$

(1 mark)

(continued on the next page)

Turn over

8. continued.

(b) Simplify

$$5p \times 3r$$

(1 mark)

(continued on the next page)

Turn over

8. continued.

(c) Simplify

$$3m + 2q - m + 5q$$

(2 marks)

(continued on the next page)

Turn over

8. continued.

(d) Solve

$$5y - 7 = y + 12$$

Show clear algebraic working.

(3 marks)

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

Turn over

8. (d) continued.

$y =$ _____

(Total for Question 8 is 7 marks)

Turn over

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

It shows information about the number of pieces of homework each student in Year 11 received last week.

(a) Work out the range of the number of pieces of homework.

(2 marks)

(continued on the next page)

Turn over

9. continued.

**(b) Write down the mode of the
number of pieces of homework.
(1 mark)**

(continued on the next page)

Turn over

9. continued.

(c) Work out the mean number of pieces of homework.

Give your answer correct to one decimal place.

(3 marks)

Answer space continues on the next page.

Turn over

9. (c) continued.

(Total for Question 9 is 6 marks)

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

ABC is a triangle.

AB = 11 cm and BC = 9.5 cm

Angle ABC = 65°

Draw accurately the triangle ABC

The line AB has been drawn for you in the Diagram Book.

(Total for Question 10 is 2 marks)

11. A circle has radius 7.5 cm

Work out the area of the circle.

Give your answer correct to

3 significant figures.

(2 marks)

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

11. continued.

_____ **cm²**

(Total for Question 11 is 2 marks)

Turn over

12. Look at the two formulae for Question 12 in the Diagram Book.

The formula for Question 12(a) can be used to work out the cost, in riyals, of hiring a bicycle in Qatar for a number of days.

Ghalia hired a bicycle in Qatar for 14 days.

(continued on the next page)

12. continued.

(a) Work out the cost.

(2 marks)

_____ **riyals**

(continued on the next page)

Turn over

12. continued.

The formula for Question 12(b) can be used to work out the cost, in riyals, of hiring a helmet in Qatar for a number of days.

Kasun wants to hire a bicycle and a helmet for the same number of days.

He wants to hire them for as many days as he can.

He has 750 riyals to spend.

(b) Work out how much of the 750 riyals is not spent.

(4 marks)

Answer space is on the next two pages.

Turn over

12. (b) continued.

Turn over

12. (b) continued.

_____ riyals

(Total for Question 12 is 6 marks)

Turn over

13. There are some counters in a bag.

7 of the counters are blue.

5 of the counters are green.

The rest of the counters are yellow.

One counter is going to be taken at random from the bag.

The probability that the counter is blue or is green is $\frac{6}{13}$

Work out how many yellow counters there are in the bag.

(3 marks)

Answer space is on the next two pages.

Turn over

13. continued.

Turn over

13. continued.

(Total for Question 13 is 3 marks)

Turn over

- 14. (a) Work out**
39% of 450
(2 marks)

(continued on the next page)

Turn over

14. continued.

(b) Write one pair of brackets in the calculation below so that the answer is correct.

$$9 \times 8 - 5 - 2 = 25$$

(1 mark)

(continued on the next page)

14. continued.

(c) Work out the value of

$$\frac{\sqrt{8 \cdot 9}}{6 \cdot 2 - 3 \cdot 5}$$

Give your answer as a decimal.

Write down all the figures on your calculator display.

(2 marks)

Answer space continues on the next page.

Turn over

14. (c) continued.

(Total for Question 14 is 5 marks)

15. Write 600 as a product of powers of its prime factors.

Show your working clearly.

(3 marks)

Answer space continues on the next two pages.

15. continued.

Turn over

15. continued.

(Total for Question 15 is 3 marks)

Turn over

16. Show that

$$2\frac{4}{7} \div 1\frac{1}{8} = 2\frac{2}{7}$$

(3 marks)

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

16. continued.

(Total for Question 16 is 3 marks)

Turn over

**17. The bearing of Paris from London
is 149°**

**Work out the bearing of London from
Paris.**

(2 marks)

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

17. continued.

○

(Total for Question 17 is 2 marks)

Turn over

18. $\mathcal{E} = \{\text{letters of the alphabet}\}$

$B = \{b, r, a, z, i, l\}$

$I = \{i, r, e, l, a, n, d\}$

(a) List the members of the set

(i) $B \cup I$

(continued on the next page)

Turn over

18. (a) continued.

Remember:

$\mathcal{E} = \{\text{letters of the alphabet}\}$

$B = \{b, r, a, z, i, l\}$

$I = \{i, r, e, l, a, n, d\}$

(ii) $B \cap I'$

(2 marks)

(continued on the next page)

Turn over

18. continued.

Remember:

$\mathcal{E} = \{\text{letters of the alphabet}\}$

$B = \{b, r, a, z, i, l\}$

$I = \{i, r, e, l, a, n, d\}$

$K = \{k, e, n, y, a\}$

Cody writes down the statement

$$B \cap K = \emptyset$$

Cody's statement is wrong.

(b) Explain why.

(1 mark)

Answer space and answer lines
are on the next page.

Turn over

18. (b) continued.

(Total for Question 18 is 3 marks)

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

It is NOT accurately drawn.

ABCD and FGHI are parallel straight lines.

EBGJ and ECH are straight lines.

$BE = CE$

Angle $BEC = 44^\circ$

Work out the size of angle JGH

Give a reason for each stage of your working.

(5 marks)

Answer space is on the next two pages.

Turn over

19. continued.

Turn over

19. continued.

○

(Total for Question 19 is 5 marks)

Turn over

20. Mariana sells bags of bird food.

The bags that Mariana sold last week each contained 12 kg of seeds.

The bags that she is going to sell next week will each contain a mixture of nuts and seeds where for each bag

weight of nuts : weight of seeds = 4 : 5

The total weight of the nuts and the seeds in each bag will be 19.35 kg

(continued on the next page)

20. continued.

The weight of seeds in each bag that Mariana sells next week will be less than the weight of seeds in each bag that Mariana sold last week.

Work out this decrease as a percentage of the weight of seeds in each bag that Mariana sold last week. Give your answer correct to one decimal place.

(4 marks)

Answer space continues on the next two pages.

Turn over

20. continued.

Turn over

20. continued.

_____ %

(Total for Question 20 is 4 marks)

Turn over

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

It is NOT accurately drawn.

It shows a right-angled triangle ABC

$$\text{AB} = x \text{ cm}$$

$$\text{AC} = 6.5 \text{ cm}$$

$$\text{Angle ABC} = 42^\circ$$

Angle ACB 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 two pages.

Turn over

21. continued.

Turn over

21. continued.

X = _____

(Total for Question 21 is 3 marks)

Turn over

22. Solve the simultaneous equations

$$5r + 2t = 10$$

$$2r - 4t = 7$$

Show clear algebraic working.

(3 marks)

Answer space continues on the next page.

22. continued.

r = _____

t = _____

(Total for Question 22 is 3 marks)

Turn over

23. (i) Factorise

$$y^2 + 2y - 24$$

(2 marks)

(continued on the next page)

Turn over

23. continued.

(ii) Hence solve

$$y^2 + 2y - 24 = 0$$

(1 mark)

(Total for Question 23 is 3 marks)

- 24. Look at Diagram 1 and Diagram 2 for Question 24 in the Diagram Book. You may be provided with a model. They are NOT accurate.**

Diagram 1 and the model show a triangular prism, $ABCDEF$

Diagram 2 shows the cross section of the prism, AED

$$\mathbf{BC = AD = 11.2 \text{ cm}}$$

$$\mathbf{DC = EF = AB = 15 \text{ cm}}$$

$$\mathbf{ED = FC = 7.4 \text{ cm}}$$

Angles AED and BFC are right angles.

(continued on the next page)

Turn over

24. continued.

Work out the volume of the prism.

Give your answer correct to

3 significant figures.

(5 marks)

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

Turn over

24. continued.

Turn over

24. continued.

_____ **cm³**

(Total for Question 24 is 5 marks)

Turn over

**25. Chengbo sold a house for
180 000 yuan.**

**The amount for which he sold the
house is 24% more than the amount
he paid for the house.**

**(a) Work out how much Chengbo
paid for the house.**

**Give your answer correct to
3 significant figures.**

(3 marks)

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

25. (a) continued.

_____ **yuan**

(continued on the next page)

Turn over

25. continued.

Zhi bought a house on

1st January 2017

**When she bought the house, its value
was 120 000 yuan.**

**The value of the house increased by
1.8% per year.**

**(b) Work out the value of Zhi's house
on 1st January 2020**

**Give your answer correct to
3 significant figures.**

(3 marks)

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

Turn over

25. (b) continued.

Turn over

25. (b) continued.

_____ yuan

(Total for Question 25 is 6 marks)

TOTAL FOR PAPER IS 100 MARKS

END OF PAPER
