Pearson Edexcel
International GCSE

Mathematics A

Level 1/2
Paper 1FR
(Calculator)
Foundation Tier

Tuesday 21 May 2019 – 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	

Pearson

YOU MUST HAVE

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

YOU WILL BE GIVEN

Diagram Book
Formulae Pages

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.

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.

ADVICE

Read each question carefully before you start to answer it.

Check your answers if you have time at the end.

Answer ALL TWENTY FIVE questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1.   (a)   Write a number in each box so that each calculation is correct.

(i)   ☐ **+ 357 = 486**

(ii) ☐ **× 23 = 1840**

(2 marks)

(continued on the next page)

1. continued.

   Look at the diagram for Question 1(b) in the
   Diagram Book.

   It shows four cards.

   Each card has a number on it.

   The four cards are arranged to make the
   number **2745**

   (b) (i) Show how the cards can be arranged to
   make the smallest number using all
   four cards.

   (ii) Show how the cards can be arranged to
   make an even number using all four cards.

   (2 marks)

(Total for Question 1 is 4 marks)

2.   Look at the diagram for Question 2 in the Diagram Book.

The bar chart gives information about the area, in millions of hectares, of the land used in four countries to grow rice.

(a)   In which of these four countries are 7 million hectares of land used to grow rice?

(1 mark)

_____

(b)   How many millions of hectares of land are used to grow rice in China?

(1 mark)

_____ millions of hectares

(continued on the next page)

2. continued.

In Thailand **10** million hectares of land are used to grow rice.

(c) Draw a bar on the bar chart to show this information.
(1 mark)

More land is used to grow rice in India than in Cambodia.

(d) How many millions of hectares more?
Show your working clearly.
(2 marks)

_____ millions of hectares

(Total for Question 2 is 5 marks)

Turn over

3. **(a)** **Write $0 \cdot 72$ as a fraction.**

Give your fraction in its simplest form.

(2 marks)

_____

(b) **Write $\dfrac{3}{4}$ as a percentage.**

(1 mark)

_____**%**

(continued on the next page)

3.   continued.

   (c) Work out **65% of 720**

   (2 marks)

_____

(continued on the next page)

3. continued.

(d) Write these five numbers in order of size.

Start with the smallest number.

$$0\cdot 43 \qquad \frac{9}{20} \qquad 40\cdot 5\% \qquad \frac{4}{9} \qquad 0\cdot 427$$

(2 marks)

_____

(Total for Question 3 is 7 marks)

_____

Turn over

4. **(a)** **Look at the diagram for Question 4(a) in the Diagram Book.**

Each square on the grid represents a one centimetre square.

On the grid, draw a rectangle with a perimeter of 14 cm

(2 marks)

(b) **Look at the diagram for Question 4(b) in the Diagram Book.**

Each square on the grid represents a one centimetre square.

On the grid, draw a right–angled triangle with an area of 12 cm^2

(2 marks)

(Total for Question 4 is 4 marks)

Turn over

5.   Look at the table for Question 5 in the Diagram Book.

It shows the temperature in each of five Canadian cities one day in January.

(a)   Work out the difference between the temperature in Vancouver and the temperature in Edmonton.

(1 mark)

_____°C

(continued on the next page)

5.   continued.

The temperature in Yellowknife is lower than the temperature in Ottawa.

(b)   How much lower?

(1 mark)

_____°C

(continued on the next page)

5.   continued.

The temperature in Winnipeg was $8°C$ greater than the temperature in Quebec.

(c)   Work out the temperature in Winnipeg.

(1 mark)

_____°C

(Total for Question 5 is 3 marks)

Turn over

6. (a) Look at the diagram for Question 6(a) in the Diagram Book.

It shows a circle with centre O

Write down the word from the box below that describes the line AB

(1 mark)

sector	segment	tangent	chord	diameter

_____

(b) Look at the diagram for Question 6(b) in the Diagram Book.

It shows a circle with centre O

On the diagram, draw a radius of the circle.

(1 mark)

(continued on the next page)

6. continued.

(c) Look at the diagram for Question 6(c) in the Diagram Book.

It is NOT accurately drawn.

Work out the size of the angle marked **X**

(1 mark)

_____ °

(Total for Question 6 is 3 marks)

7. **Bella buys**

4 packets of sandwiches at £2·40 each packet

a bottle of water for £1·20

3 packets of crisps.

Bella pays with a £20 note.

She gets £5·75 change.

Each packet of crisps has the same price.

Work out the price of each packet of crisps.

(3 marks)

Answer space continues on the next page.

7.   continued.

£ _____

(Total for Question 7 is 3 marks)

Turn over

8. (a) **Simplify**

    a + a + a + a

    (1 mark)

    _____

    (b) **Simplify**

    3c ✕ 5c

    (1 mark)

    _____

(continued on the next page)

8. **continued.**

(c) **Simplify**

3e + 7g + 5e − 4g

(2 marks)

_____

(d) **Solve**

x − 9 = 14

(1 mark)

x = _____

(continued on the next page)

8. **continued.**

(e) **Factorise**

$5y + 15$

(1 mark)

_____

(f) **Make** y **the subject of**

$H = 3y - w$

(2 marks)

_____

(Total for Question 8 is 8 marks)

9. **A bag of 11 counters contains**

3 purple counters

2 orange counters

6 white counters

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

(a) **Find the probability that the counter will be**

(i) **orange**

_____

(ii) **not white**

_____

(iii) **green**

_____

(3 marks)

(continued on the next page)

9.   continued.

A box of **12** toy cars contains

3 red cars

4 blue cars

5 yellow cars

Some extra **red** cars are put in the box.

When a car is taken at random from the box, the probability that the car is yellow is $\frac{1}{6}$

(b) Work out the number of extra red cars that are put in the box.

(2 marks)

Answer space continues on the next page.

9. **(b)** **continued.**

_____

(Total for Question 9 is 5 marks)

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

It shows a number machine.

(a) Work out the output when the input is 8

(1 mark)

_____

(continued on the next page)

10. **continued.**

    (b) **Work out the input when the output is 82**

        (2 marks)

_____

(continued on the next page)

10. **continued.**

The input is y

(c) **Find an expression, in terms of y, for the output.**

(2 marks)

_____

(Total for Question 10 is 5 marks)

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

   On the grid, draw the graph of $y = 2x - 3$ for values of x from -1 to 5

(Total for Question 11 is 3 marks)

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

    Three bags, A, B and C, each contain some marbles.

    There is a total of 75 marbles in the three bags.

    $\dfrac{1}{5}$ of the marbles are in bag A

    There are 4 more marbles in bag B than in bag C

    Work out the number of marbles in each bag.

    (3 marks)

    Answer space continues on the next page.

12. continued.

Bag A _____

Bag B _____

Bag C _____

(Total for Question 12 is 3 marks)

13. Potatoes cost 2 dollars per kg

Carrots cost 3 dollars per kg

Alfred buys p kg of potatoes and c kg of carrots.

The total cost is T dollars.

Write down a formula for T in terms of p and c

_____

(Total for Question 13 is 3 marks)

Turn over

14. (a) Look at the diagram for Question 14(a) in the Diagram Book.

It shows shape **P** on a coordinate grid.

On the grid, translate shape **P** by the vector $\begin{pmatrix} -5 \\ 2 \end{pmatrix}$

(1 mark)

(b) Look at the diagram for Question 14(b) in the Diagram Book.

It shows shape **Q** and shape **R** on a coordinate grid.

Describe fully the single transformation that maps shape **Q** onto shape **R**

(3 marks)

_____

_____

_____

(Total for Question 14 is 4 marks)

Turn over

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

   It is NOT accurately drawn.

   It shows a cylinder.

   The cylinder has radius $8 \cdot 2$ cm and height 10 cm

   The cylinder is empty.

   Pam pours $1 \cdot 5$ litres of water into the cylinder.

   Work out the depth of the water in the cylinder.

   Give your answer correct to 1 decimal place.

   (3 marks)

   Answer space continues on the next page.

15. continued.

_____ **cm**

(Total for Question 15 is 3 marks)

16. **Each interior angle of a regular polygon is 162°**

Work out the number of sides the polygon has.

_____

(Total for Question 16 is 3 marks)

17. $\mathscr{E}$ = {11, 12, 13, 14, 15, 16, 17, 18, 19, 20}

A = {even numbers}

B = {multiples of 3}

List the members of the set

(i) A ∩ B

_____

(continued on the next page)

17. continued.

(ii) $A \cup B$

_____

(iii) A'

_____

(Total for Question 17 is 3 marks)

18. (a) **Find the highest common factor (HCF) of**

21 and **35**

(1 mark)

_____

(b) **Write 720 as a product of its prime factors.**

Show your working clearly.

(3 marks)

Answer space continues on the next page.

18. (b) continued.

(continued on the next page)

18. continued.

    (c) Find the smallest whole number that 720 can be multiplied by to give a square number.

        (1 mark)

_____

(Total for Question 18 is 5 marks)

Turn over

19. Lorenzo increases all the prices on his restaurant menu by 8%

Before the increase, the price of a dessert was $4·25

(a) Work out the price of the dessert after the increase.

(3 marks)

$ _____

Turn over

19. continued.

After the increase, the price of lasagne is **$9·45**

(b) Work out the price of lasagne before the increase.

(3 marks)

$ _____

(Total for Question 19 is 6 marks)

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

   It is NOT accurately drawn.

   It shows isosceles triangle ABC

   AB = AC = 7·5 cm

   The height of the triangle is 6 cm

   Calculate the area of the triangle.

   (4 marks)

   Answer space continues on the next page.

20. **continued.**

_____ cm^2

(Total for Question 20 is 4 marks)

21. There are **10** people in a lift.

    These **10** people have a mean weight of **79·2 kg**

    3 of these people get out of the lift.

    These **3** people have a mean weight of **68 kg**

    Work out the mean weight of the **7** people left in the lift.

    (3 marks)

    Answer space continues on the next page.

21. continued.

_____ **kg**

(Total for Question 21 is 3 marks)

Turn over

22. **(a)** **Simplify**

$$t^9 \div t^3$$

(1 mark)

_____

(b) **Simplify**

$$w^5 \times w^7$$

(1 mark)

_____

(continued on the next page)

22. continued.

(c) Simplify

$$(5xy^2)^3$$

(2 marks)

_____

(Total for Question 22 is 4 marks)

Turn over

23. **Change 22 metres per second to a speed in kilometres per hour.**

Show your working clearly.

_____ **km/h**

(Total for Question 23 is 3 marks)

24. **3** years ago, the ratio of Tom's age to Clemmie's age was **2 : 7**

Tom is now **15** years old and Clemmie is now **x** years old.

Find the value of **x**

(3 marks)

Answer space continues on the next page.

24. continued.

X = _____

(Total for Question 24 is 3 marks)

Turn over

25.

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

A box, in the shape of a cuboid, is going to be put on a table.

The whole of one face of the box will be in contact with the table.
The force exerted by the box on the table is always **105** newtons.

The box is **5** metres by **4** metres by **3** metres.

The greatest pressure exerted by the box on the table is P newtons/m^2
The least pressure exerted by the box on the table is Q newtons/m^2

Work out the value of $P - Q$
(3 marks)
Answer space is on the next two pages.

25. continued.

25. continued.

(Total for Question 25 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

END OF PAPER