Paper Reference 4MA1/1F
Pearson Edexcel
International GCSE

Mathematics A

Paper 1F
(Calculator)
Foundation Tier

Tuesday 7 January 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	

Y59752A

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 TWO 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 land area, in km^2, of each of five African countries.

   (a) Write down the name of the country with the greatest land area.

   (1 mark)

   _____

1.   continued.

(b) Write **823 290** correct to the

nearest thousand.

(1 mark)

_____

(continued on the next page)

Turn over

1.   continued.

(c)   Work out the difference between the land area of Botswana and the land area of Kenya.

(1 mark)

_____ km^2

(continued on the next page)

1. continued.

    The land area of the Gambia is

    10 120 km^2

    (d) Write the number **10 120** in words.

    (1 mark)

    _____

    _____

    _____

(Total for Question 1 is 4 marks)

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

The bar chart shows information about the weight, in millions of tonnes, of bananas produced by each of four countries.

China produced **14** million tonnes of bananas.

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

(1 mark)

(continued on the next page)

2. **continued.**

One of these countries produced

7 million tonnes of bananas.

(b) Which country?

(1 mark)

_____

(continued on the next page)

2. continued.

A total of **113** million tonnes of bananas was produced worldwide.

(c) What fraction of the **113** million tonnes of bananas was produced in India?

(2 marks)

_____

(Total for Question 2 is 4 marks)

3. (a) Complete the following sentences by writing a sensible metric unit on each of the answer lines.

(i)   The distance from Cairo to Nairobi is

5211 _____

(ii) The weight of an egg is

20 _____

(iii) The area of the floor of a classroom is

260 _____

(3 marks)

Turn over

3. continued.

Cara has a bottle of juice.

There is **1** litre of juice in the bottle.

Cara makes some drinks.

She uses exactly **30** millilitres of this juice to make each drink.

Cara makes as many drinks as possible.

(continued on the next page)

3.   continued.

(b) **How many drinks does Cara make?**

(3 marks)

Answer space continues on the next page.

3.   (b)   continued.

_____

(Total for Question 3 is 6 marks)

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

It shows a sequence of patterns made from square tiles.

(a)   Pattern number **4** has been started beside Pattern number **3**

Complete Pattern number **4**

(1 mark)

(b)   Look at the table for Questions 4(b) to (d) in the Diagram Book.

Complete the table.

There are two spaces to fill.

(1 mark)

Turn over

4. continued.

(c) Work out the number of tiles in Pattern number **30**

(2 marks)

_____

(continued on the next page)

Turn over

4.   continued.

Liz says that in Pattern number n,

the number of tiles is 2n

(d) Is Liz correct?

You must give a reason for your

answer.

(1 mark)

Write your answer in the space

below and on the lines on the

next page.

4. **(d)** **continued.**

_____

_____

_____

(Total for Question 4 is 5 marks)

5. **Paul is buying a sandwich and a drink in a meal deal.**

   He can have a cheese sandwich (C) or an egg sandwich (E) or a tomato sandwich (T)

   He can have orange juice (O) or milk (M) or water (W) to drink.

   Write down all the possible combinations Paul can buy.

   (2 marks)

   Answer lines continue on the next page.

_____

_____

5. continued.

_____

_____

_____

(Total for Question 5 is 2 marks)

6.   (a)   Write

$$\frac{1}{4}$$

as a decimal.

(1 mark)

_____

(continued on the next page)

6. continued.

(b) Write

$$\frac{34}{10}$$

as a mixed number in its simplest form.

(2 marks)

_____

Turn over

6. continued.

(c) Show that

$$\frac{3}{4} \div \frac{15}{16} = \frac{4}{5}$$

(2 marks)

Answer space continues on the next page.

6. **(c)** **continued.**

(Total for Question 6 is 5 marks)

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

It is NOT accurately drawn.

It shows a quadrilateral **ABDE**

ABC is a triangle.

DCB is a straight line.

Angle **AED** = 78°

Angle **EAC** is a right angle.

Angle **EDC** = y°

Angle **ACB** = 125°

Angle **BAC** = 17°

Angle **ABC** = x°

(continued on the next page)

7.   continued.

(a)   (i)   Work out the value of X

(1 mark)

X = _____

(ii)   Give a reason for your

answer.

(1 mark)

_____

_____

(continued on the next page)

7.   continued.

(b)   Work out the value of y

Give a reason for each stage of your working.

(3 marks)

Answer space continues on the next page.

7. **(b)** **continued.**

$y = $ _____

(Total for Question 7 is 5 marks)

8.   (a)   Simplify

$$6m - 2k + 5m - k$$

(2 marks)

_____

Turn over

8.   continued.

   (b) Given that

   $$P = 2a + 3b$$

   work out the value of **P** when

   $$a = 5 \text{ and}$$

   $$b = 8$$

   (2 marks)

   P = _____

Turn over

8.   continued.

   (c)   Given that

$$P = 2a + 3b$$

work out the value of a when

$$P = 16 \text{ and}$$

$$b = 20$$

(3 marks)

Answer space continues on the next page.

8. (c) continued.

a = _____

(Total for Question 8 is 7 marks)

Turn over

9.   Kamal sells **240** ice creams for a total of **$640**

$\frac{1}{3}$ of the ice creams he sells are large.

The cost of each large ice cream he sells is **$3·80**

All the other ice creams he sells are small.

He sells each small ice cream for the same cost.

(continued on the next page)

9. continued.

    Work out the cost of each small ice cream.

    (4 marks)

    Answer space continues on the next page.

9. **continued.**

$ _____

(Total for Question 9 is 4 marks)

10. (a) Write the ratio

$$32 : 80$$

in its simplest form.

(2 marks)

_____

Turn over

10. continued.

There are only red counters and

blue counters in a bag.

In the bag

the number of red counters :

the number of blue counters $= 5 : 7$

(b) What fraction of the counters in

the bag are red?

(1 mark)

_____

(Total for Question 10 is 3 marks)

11. Kwo asked **40** people where they went on holiday last year.

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

16 of the **40** people said they went to Egypt.

(a) Work out the size of the angle in the pie chart for Egypt.

(2 marks)

Answer space continues on the next page.

11. (a) continued.

_____ °

(continued on the next page)

11. continued.

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

It shows a pie chart.

Tiffany asked some people what type of holiday they each like the best.

She used her results to draw the pie chart.

48 of the people that Tiffany asked said they like beach holidays the best.

Turn over

11. continued.

(b) Work out how many of the people Tiffany asked said they like walking holidays the best.

(2 marks)

_____

(Total for Question 11 is 4 marks)

Turn over

12. Sam takes an English exam.

There are two papers in the exam.

Each paper has a maximum mark of **80**

To pass the exam, Sam needs to get at least **60%** of the total marks.

Sam gets **55%** of the **80** marks in paper **1**

12. continued.

Work out the least number of marks that Sam must get in paper **2** to pass the English exam.

(4 marks)

Answer space continues on the next page.

12. continued.

_____

(Total for Question 12 is 4 marks)

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

It shows a scale drawing with the positions of a ship, **S**, and a port, **P**

(a) Find the bearing of **S** from **P**

(1 mark)

_____ °

(continued on the next page)

13. continued.

The ship **S** now sails directly towards port **P**

The ship sails at an average speed of **24 km/h**

Remember: **1 cm** on the diagram represents **20 km**

(continued on the next page)

13. continued.

(b) Work out how long it takes the

ship to get to **P**

Give your answer correct to the

nearest hour.

(4 marks)

_____ hours

(Total for Question 13 is 5 marks)

14. The point **A** has coordinates $(5, -4)$

The point **B** has coordinates $(13, 1)$

(a) Work out the coordinates of the midpoint of **AB**

(2 marks)

(_____ , _____)

(continued on the next page)

Turn over

14. **continued.**

Line **L** has equation

$$y = 2 - 3x$$

(b) Write down the gradient of line **L**

(1 mark)

_____

(continued on the next page)

14. continued.

Line **L** has equation

$$y = 2 - 3x$$

(c) Does the point with coordinates $(100, -302)$ lie on line **L**?

You must give a reason for your answer.

(1 mark)

_____

_____

_____

_____

(Total for Question 14 is 4 marks)

15. **(a)** **Find the highest common factor (HCF) of 28 and 70**

(2 marks)

Turn over

15. continued.

(b) Find the lowest common multiple (LCM) of **28** and **105**

(2 marks)

Answer space continues on the next page.

15. (b) continued.

_____

(Total for Question 15 is 4 marks)

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

It is NOT accurately drawn.

It shows a shape.

Four of the sides are marked: **9 cm**, **12 cm**, **6 cm** and **x cm**

All marked angles are right angles.

The shape has area **129 cm^2**

Work out the value of **x**

(4 marks)

Answer space continues on the next page.

16. continued.

X = _____

(Total for Question 16 is 4 marks)

17. Look at the table for Question 17 in the Diagram Book.

   It shows information about the weights, in kilograms, of **40** babies.

   (a) Write down the modal class.

   (1 mark)

   _____

Turn over

17. continued.

(b) Work out an estimate for the mean weight of the **40** babies.

(4 marks)

Answer space continues on the next page.

17. (b) continued.

_____ **kg**

(continued on the next page)

17. continued.

One of the **40** babies is going to be chosen at random.

(c) Find the probability that this baby has a weight of more than **5 kg**

(2 marks)

_____

(Total for Question 17 is 7 marks)

Turn over

18. **120 children go on an activity holiday.**

The ratio of the number of girls to the number of boys is 3 : 5

On Sunday, all the children either go sailing or go climbing.

$\dfrac{16}{25}$ **of the boys go climbing.**

Twice as many girls go sailing as go climbing.

18. continued.

Work out how many children go sailing on Sunday.

(6 marks)

Answer space continues on the next two pages.

18. continued.

18. continued.

(Total for Question 18 is 6 marks)

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

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

Describe fully the single transformation that maps shape **A** onto shape **B**

_____

_____

_____

(Total for Question 19 is 2 marks)

20. (a) Write

$$7 \cdot 8 \times 10^{-4}$$

as an ordinary number.

(1 mark)

_____

(continued on the next page)

20. continued.

(b) Work out

$$\frac{5 \cdot 6 \times 10^4 + 7 \times 10^3}{2 \cdot 8 \times 10^{-3}}$$

Give your answer in standard form.

(2 marks)

_____

(Total for Question 20 is 3 marks)

Turn over

21. (a) Expand and simplify

$$(m - 8)(m + 5)$$

(2 marks)

_____

(continued on the next page)

Turn over

21. continued.

    (b) Factorise fully

$$5y + 20y^2$$

    (2 marks)

_____

Turn over

21. continued.

(c) Simplify

$$(p^2 + 3)^0$$

(1 mark)

_____

(continued on the next page)

Turn over

21. continued.

(d) Solve

$$3(2x - 5) = \frac{9 - x}{2}$$

Show clear algebraic working.

(4 marks)

Answer space continues on the next page.

21. (d) continued.

X = _____

(Total for Question 21 is 9 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, **PRQ**

PR = 24·3 cm

Angle **RPQ = 63°**

Angle **PRQ** is a right angle.

Calculate the length of **PQ**

Give your answer correct to

3 significant figures.

(3 marks)

Answer space is on the next two pages.

Turn over

22. continued.

22. continued.

_____ **cm**

(Total for Question 22 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

END OF PAPER