Pearson Edexcel
International GCSE

Total Marks

Mathematics A

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

Monday 7 January 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	

Q59016A

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
Shapes for Question 16(a), (b) and (c)

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 questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. (a) Write these five numbers in order of size.

Start with the smallest number.

(1 mark)

73   138   36   219   89

_____

(b) Write in figures the number two thousand and

eighteen.

(1 mark)

_____

(c) Write in words the number **4309**

(1 mark)

_____

_____

Turn over

1. continued.

    (d) Write down the value of the **7** in **9715**

    (1 mark)

    _____

    (e) Write the number **286** correct to the nearest **10**

    (1 mark)

    _____

    (f) Work out $\dfrac{4}{5}$ of **185**

    (2 marks)

    _____

(Total for Question 1 is 7 marks)

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

    The pictogram shows some information about the
    number of books read by Theodore during each of
    five weeks.

    (a) During which week did Theodore read the
         greatest number of books?
         (1 mark)

         Week _____

(continued on the next page)

2. **continued.**

Theodore read 16 books during Week 1

(b) (i) **How many books does** ☐☐ **represent?**

_____

(ii) **How many books did Theodore read during Week 2?**

_____

(iii) **How many books did Theodore read during Week 5?**

(3 marks)

_____

(Total for Question 2 is 4 marks)

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

It shows a sequence of three patterns made from identical pentagons: Pattern number **1**, Pattern number **2** and Pattern number **3**

(a) (i) Work out the number of pentagons in Pattern number **4**

_____

(ii) Explain how you worked out your answer.

(2 marks)

_____

_____

(continued on the next page)

3.   continued.

A different sequence of patterns is made from identical hexagons.

The rule below can be used to find the number of hexagons in each pattern of this sequence.

Multiply the Pattern number by **5** and subtract **1**

(b) Work out the number of hexagons in Pattern number **7**

(1 mark)

_____

Turn over

3. continued.

Remember:

Multiply the Pattern number by **5** and subtract **1**

A pattern in this sequence has exactly **59** hexagons.

(c) Work out its Pattern number.

(2 marks)

_____

(Total for Question 3 is 5 marks)

4. Megan buys **2** muffins and **1** carrot cake.

The total cost is **£4·74**

The cost of the carrot cake is **£1·80**

(a) Find the cost of each muffin.

(3 marks)

£ _____

Turn over

4. **continued.**

Caitlin buys some apples and some oranges.

She buys twice as many apples as oranges.

Each apple costs **£0·25**

Each orange costs **£0·30**

Caitlin has **£5** to spend.

(b) Find the greatest number of apples she can buy.

(3 marks)

_____

(Total for Question 4 is 6 marks)

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

   It shows information about the number of gold
   medals won by each of **8** countries at the
   2016 Olympics.

   (a) Work out the range of the number of gold
       medals.

       (1 mark)

   _____

(continued on the next page)

Turn over

5. continued.

(b) Work out the median number of gold medals.

(2 marks)

_____

(c) Work out the mean number of gold medals.

(2 marks)

_____

(Total for Question 5 is 5 marks)

6. **Sabbir arrived at Dhaka train station at 9 30 pm**

    (a) **Write this time using the 24−hour clock.**

         (1 mark)

         _____

(continued on the next page)

6. continued.

A train left Dhaka train station at **10 30 pm** one day.

The train arrived at Chittagong train station at

7 50 am the next day.

(b) Work out the time taken by this train.

Give your answer in hours and minutes.

(2 marks)

_____ hours _____ minutes

(continued on the next page)

Turn over

6. **continued.**

A different train travelled from Dhaka to Darshana.

The train took 5 hours and 30 minutes.

The train travelled a distance of 327 kilometres.

(c) **Work out the average speed of the train.**

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

(3 marks)

_____ **km/h**

(Total for Question 6 is 6 marks)

Turn over

7.   (a) **Write down the prime number between**

      90 and 100

      (1 mark)

_____

  (b) **Find the value of 3^6**

      (1 mark)

_____

  (c) **Find the cube root of 6859**

      (1 mark)

_____

Turn over

7. **continued.**

(d) (i) Work out the value of

$$\frac{\sqrt{8 \cdot 4 + 9 \cdot 1^2}}{4 \cdot 1 \times 0 \cdot 6}$$

Write down all the figures on your calculator display.

(2 marks)

_____

(continued on the next page)

Turn over

7. (d) continued.

(ii) Write your answer to part (d) (i) correct to

1 decimal place.

(1 mark)

_____

(Total for Question 7 is 6 marks)

Turn over

8. (a) **Simplify**

$$2e - 3f + 4e - 7f$$

(2 marks)

_____

(continued on the next page)

8. **continued.**

    (b) **Expand and simplify**

        5(4y + 3) − (3y − 1)

        (2 marks)

_____

(continued on the next page)

8.   continued.

(c) Factorise fully

4p + 6pq

(2 marks)

_____

(Total for Question 8 is 6 marks)

Turn over

9.

$h = 6q - 2u$

(a) Work out the value of h when $q = 3$ and $u = -5$

(2 marks)

$h =$ _____

(continued on the next page)

9.   continued.

B = 3m + 2p

(b) Work out the value of **p** when **B = 2** and

m = 5

(2 marks)

p = _____

(Total for Question 9 is 4 marks)

Turn over

10. All the teachers at a school are either left footed or right footed.

At the school

the number of left footed teachers : the number of right footed teachers $= 3 : 13$

A teacher at the school is picked at random.

(a) Find the probability that this teacher is left footed.

(1 mark)

_____

(continued on the next page)

10. continued.

At the school, there are **18** left footed teachers.

(b) How many right footed teachers are there?

(2 marks)

_____

(Total for Question 10 is 3 marks)

Turn over

11. Benson was on holiday in Kenya for **70** days.

He was in Nairobi for $\frac{2}{7}$ of this holiday.

He was in Mombasa for $\frac{1}{5}$ of this holiday.

He was in Kisumu for $\frac{4}{9}$ of the REST of this holiday.

For what fraction of this holiday was Benson in Kisumu?

(4 marks)

Answer space continues on the next page.

Turn over

11. continued.

(Total for Question 11 is 4 marks)

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

On the grid, draw the graph of $y = 2x - 3$ for values of x from -1 to 4

(Total for Question 12 is 3 marks)

Turn over

13. **(a)** **Expand and simplify**

$$(e + 3)(e - 5)$$

(2 marks)

_____

(continued on the next page)

13. continued.

    (b) Solve

$$y = \frac{2y + 1}{5}$$

    Show clear algebraic working.

    (3 marks)

$y =$ _____

(continued on the next page)

13. continued.

(c) **Solve**

$$x^2 + 3x - 18 = 0$$

Show your working clearly.

(3 marks)

_____

(Total for Question 13 is 8 marks)

Turn over

14. Look at the table for Question 14 in the Diagram Book.

It gives information about the price of gold.

(a) Work out the percentage increase in the price of gold between **1**st February **2016** and **1**st March **2016**

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

(3 marks)

_____ %

(continued on the next page)

Turn over

14. continued.

The price of one ounce of gold on

1st February **2016** was **1126·50** dollars.

The price of gold increased by **19%** from

1st February **2016** to **1**st July **2016**

(b) Work out the price of one ounce of gold on

1st July **2016**

Give your answer correct to the nearest dollar.

(3 marks)

_____ dollars

(Total for Question 14 is 6 marks)

Turn over

15. Look at the diagram and at the table for Question 15 in the Diagram Book.

The diagram shows a biased **5**–sided spinner.

Kenny spins the spinner once.

The table in the Diagram Book gives the probabilities that the spinner lands on red or on blue or on green.

(a) Work out the probability that the spinner lands on red or blue.

(1 mark)

_____

(continued on the next page)

Turn over

15. continued.

When the spinner is spun once, the probability that the spinner lands on brown is $0 \cdot 06$ more than the probability that the spinner lands on yellow.

Jenine spins the spinner **150** times.

(b) Work out an estimate for the number of times the spinner lands on yellow.

(4 marks)

(Total for Question 15 is 5 marks)

Turn over

16. Look at the diagram for Question 16(a) and (b) in the Diagram Book.

    It shows triangle **A** and triangle **B** on a coordinate grid.

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

    (a) Describe fully the single transformation that maps triangle **A** onto triangle **B**

    (3 marks)

    _____

    _____

    _____

    (b) On the grid, translate triangle **A** by the vector

    $\begin{pmatrix} 2 \\ -5 \end{pmatrix}$

    Label the new triangle **C**

    (1 mark)

(continued on the next page)

Turn over

16. continued.

(c) Look at the diagram for Question 16(c) in the Diagram Book.

It shows triangle **D** and triangle **E** on a coordinate grid.

Describe fully the single transformation that maps triangle **D** onto triangle **E**

Two cut out shapes are available if you wish to use them.

(2 marks)

_____

_____

_____

(Total for Question 16 is 6 marks)

17. Look at diagram 1 and diagram 2 for Question 17 in the Diagram Book.

They are NOT accurate.

Diagram 1 shows an isosceles triangle **ABC** and a semicircle with centre **O** and diameter **12 cm**

The point **B** lies on the semicircle.

The line **OB** is the line of symmetry of the diagram.

AC is **1 cm** from the diameter of the semicircle and **AC = 8 cm**

Diagram 2 shows the triangle **ABC**

Work out the area of the unshaded region in diagram 1.

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

(4 marks)

Answer space continues on the next page.

Turn over

17. continued.

_____ cm^2

(Total for Question 17 is 4 marks)

18. **Look at the table for Question 18 in the Diagram Book.**

   It shows the volumes, in km^3, of four oceans.

   (a) **Write $7 \cdot 18 \times 10^7$ as an ordinary number.**

   (1 mark)

   _____

   (b) **Calculate the total volume of these four oceans.**

   (2 marks)

   _____ km^3

Turn over

18. **continued.**

The volume of the South China Sea is

9 880 000 km^3

(c) Write **9 880 000** in standard form.

(1 mark)

_____

(Total for Question 18 is 4 marks)

Turn over

19. Look at the diagram for Question 19 in the

    Diagram Book.

    It is NOT accurately drawn.

    It shows triangle **ACD**

    ABC is a straight line.

    BD = 12·6 cm

    DC = 19·3 cm

    Angle **ADB = 20°**

    Angle **ABD** is a right angle.

    Work out the length of **AC**

    Give your answer correct to **1** decimal place.

    (5 marks)

    Answer space continues on the next page.

19. continued.

_____ **cm**

(Total for Question 19 is 5 marks)

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

It is NOT accurately drawn.

AB is parallel to **ED**

ACD and **BCE** are straight lines.

AB = 8 cm

AC = 4·8 cm

BC = 6·4 cm

ED = 20 cm

Work out the length of **BE**

(3 marks)

Answer space continues on the next page.

Turn over

20. continued.

_____ **cm**

(Total for Question 20 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

END OF PAPER