

Paper Reference 1MA1/1F  
Pearson Edexcel  
Level 1/Level 2 GCSE(9 – 1)

Total Marks
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Mathematics  
Paper 1  
(Non-Calculator)  
Foundation Tier

Tuesday 5 November 2019 – Morning

Time: 1 hour 30 minutes 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. Tracing paper may be used.**

**YOU WILL BE GIVEN**

**Diagram Book**

**INSTRUCTIONS**

**Answer ALL questions.**

**Answer the questions in the spaces provided in this Question Paper or on the separate diagrams – there may be more space than you need.**

**You must show all your working.**

**Diagrams are NOT accurately drawn, unless otherwise indicated.**

**CALCULATORS MAY NOT BE USED.**

**Turn over**

## **INFORMATION**

**The total mark for this paper is 80**

**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.**

**Keep an eye on the time.**

**Try to answer every question.**

**Check your answers if you have time at the end.**

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**Answer ALL questions.**

**Write your answers in the spaces provided.**

**You must write down all the stages in your working.**

1. Write down the value of the 7 in the number 1074

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(Total for Question 1 is 1 mark)

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2. Write **4.58** correct to **1** decimal place.

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(Total for Question 2 is 1 mark)

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3. Work out

$$31.7 \times 100$$

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(Total for Question 3 is 1 mark)

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4. Write the fraction  $\frac{28}{70}$  in its simplest form.

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(Total for Question 4 is 1 mark)

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5. Write 15% as a decimal.

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(Total for Question 5 is 1 mark)

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6. Look at the diagram for Question 6 in the Diagram Book.

The incomplete pictogram shows information about the number of pictures sold in an art shop in each of January, February and March.

- (a) Write down the number of pictures sold in January.

(1 mark)

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**12** pictures were sold in April.

- (b) Show this information on the pictogram.

(1 mark)

(continued on the next page)

**6. continued.**

**(c) What was the total number of pictures sold in these four months?**

**(2 marks)**

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**(Total for Question 6 is 4 marks)**

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7. Work out the difference, in minutes, between 1 hour 25 minutes and  $1\frac{1}{4}$  hours.

\_\_\_\_\_ minutes

(Total for Question 7 is 2 marks)

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8. Prasha has five blocks of wood.

The total weight of all five blocks of wood is  
3 kilograms.

4 of the blocks of wood each have a weight of  
650 grams.

Work out the weight, in grams, of the other block of  
wood.

(3 marks)

Answer space continues on the next page.

8. continued

\_\_\_\_\_ grams

(Total for Question 8 is 3 marks)

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Turn over

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

**PQR** is a straight line.

There are three angles marked  $100^\circ$ ,  $35^\circ$  and **x**

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



(Total for Question 9 is 2 marks)

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

**It shows the line BC on a coordinate grid.**

**(a) Plot the point with coordinates (3, 2)**

**Label this point A**

**(1 mark)**

**(b) Write down the coordinates of the midpoint of BC**

**(1 mark)**

**( \_\_\_\_\_ , \_\_\_\_\_ )**

**(Total for Question 10 is 2 marks)**

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**11. Mason throws a coin 3 times.**

**The outcome of each throw is either Heads or Tails.**

**List all the possible outcomes of the 3 throws.**

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**(Total for Question 11 is 2 marks)**

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**12. Rehan is on holiday in the USA.**

**He has \$200 to spend on clothes.**

**Rehan buys**

**1 pair of trainers costing \$60**

**3 T-shirts costing \$25 each.**

**He also wants to buy a jacket costing \$80**

**(a) Has Rehan got enough money to buy the jacket?**

**You must show how you get your answer.**

**(3 marks)**

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

**12. (a) continued.**

**(continued on the next page)**

**Turn over**

**12. continued.**

**The trainers cost \$60**

**The exchange rate is  $\$1 = \text{£}0.749$**

**Rehan says,**

**“The trainers cost less than £40”**

**Rehan is wrong.**

**(b) Using a suitable approximation, show working to explain why.**

**(2 marks)**

**(Total for Question 12 is 5 marks)**

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**Turn over**

13. (a) Simplify  
 $2a \times 5b$   
(1 mark)
- 

- (b) Simplify  
 $3e + 2f + 5e - f$   
(2 marks)
- 

(Total for Question 13 is 3 marks)

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14. Work out  
 $23 \times 15$

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(Total for Question 14 is 2 marks)

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

**It shows an incomplete frequency tree.**

**120 people were at a hockey match.**

**Each person was asked if they wanted to stand or to sit to watch the match.**

**75 of the people were female**

**29 of the males wanted to stand**

**30 of the people wanted to sit**

**(a) Use this information to complete the frequency tree.**

**There are six spaces to fill.**

**(3 marks)**

**(continued on the next page)**

**15. continued.**

**One of the 120 people is chosen at random.**

**(b) Write down the probability that this person is a male who wanted to stand.**

**(1 mark)**

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**(Total for Question 15 is 4 marks)**

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

**Steve drove from his home to his friend's house.  
He stayed at his friend's house and then drove home.**

**Steve's travel graph is shown in the Diagram Book.**

**(a) For how many minutes did Steve stay at his friend's house?**

**(1 mark)**

**\_\_\_\_\_ minutes**

**(continued on the next page)**

16. continued.

(b) What was Steve's average speed on his journey home?

(2 marks)

\_\_\_\_\_ km/h

(Total for Question 16 is 3 marks)

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Turn over

17. When  $x - 1 = 2$

work out the value of  $2x^2$

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(Total for Question 17 is 3 marks)

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

**The pie charts show information about the favourite animal of each student at school A and of each student at school B**

**There are 480 students at school A**

**There are 760 students at school B**

**Henry says,**

**“The same number of students at each school have tigers as their favourite animal.”**

**Is Henry correct?**

**You must show how you get your answer.**

**(4 marks)**

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

**18. continued.**

**(Total for Question 18 is 4 marks)**

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**Turn over**

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

**It shows a number line.**

**Write down the inequality shown on the number line.**

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**(Total for Question 19 is 2 marks)**

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**20. Find the Lowest Common Multiple (LCM) of  
108 and 120**

**(3 marks)**

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

20. continued.

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**(Total for Question 20 is 3 marks)**

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**Turn over**



**21. Look at the information for Question 21 in the Diagram Book.**

**Using the information work out the value of  $n$**

**You must show how you get your answer.**

**(4 marks)**

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

**21. continued.**

**n = \_\_\_\_\_**

**(Total for Question 21 is 4 marks)**

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**Turn over**

22. Work out

$$1\frac{3}{4} \times 1\frac{1}{3}$$

Give your answer as a mixed number.

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(Total for Question 22 is 3 marks)

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Turn over

**23. Look at the diagram for Question 23 in the Diagram Book.**

**Use a ruler and compasses to construct the line from the point **P** perpendicular to the line **CD****  
**You must show ALL construction lines.**

**(Total for Question 23 is 2 marks)**

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24. Look at the diagram for Question 24 in the Diagram Book.

It shows triangle **ABC**

Angle **BAC** =  $75^\circ$

Angle **ABC** =  $51^\circ$

**ADB** is a straight line.

the size of angle **DCB** : the size of angle **ACD** = 2 : 1

Work out the size of angle **BDC**

(4 marks)

Answer space continues on the next page.

24. continued.

o

(Total for Question 24 is 4 marks)

Turn over

**25. Look at the information for Question 25 in the Diagram Book.**

**Donna says,**

**“The mean weight of the 10 bricks is less than 7 kg”**

**Is Donna correct?**

**You must show how you get your answer.**

**(3 marks)**

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

**25. continued.**

**(Total for Question 25 is 3 marks)**

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26. (a) Simplify

$$(p^2)^5$$

(1 mark)

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(b) Simplify

$$12x^7y^3 \div 6x^3y$$

(2 marks)

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(Total for Question 26 is 3 marks)

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Turn over

**27. Look at the diagram for Question 27 in the Diagram Book.**

**The accurate scale drawing shows the positions of port P and a lighthouse L**

**1 cm on the diagram represents 2 km**

**Aleena sails her boat from port P on a bearing of  $070^\circ$**

**She sails for  $1\frac{1}{2}$  hours at an average speed of 12 km/h to a port Q**

**Find**

- (i) the distance, in km, of port Q from lighthouse L,**
- (ii) the bearing of port Q from lighthouse L**

**(5 marks)**

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

**27. continued.**

distance **QL** = \_\_\_\_\_ km

bearing of **Q** from **L** = \_\_\_\_\_ °

**(Total for Question 27 is 5 marks)**

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**Turn over**

28. Look at the diagram for Question 28 in the Diagram Book.

It shows triangle **AOB**

Three angles are marked  $(2x)^\circ$ ,  $(3x)^\circ$ ,  $10^\circ$

Angle **AOB** is NOT an obtuse angle.

Find the greatest value of **x**

You must show all your working.

(3 marks)

Answer space continues on the next page.

**28. continued.**

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**(Total for Question 28 is 3 marks)**

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**Turn over**

29. Look at the diagram for Question 29(a) in the Diagram Book.

**ABC** and **PQR** are similar right-angled triangles.

In triangle **ABC**, **AC = 9 cm** and **BC = 15 cm**

In triangle **PQR**, **RQ = 10 cm**

angle **ABC** = angle **PQR**

(a) Work out the length of **PR**  
(2 marks)

\_\_\_\_\_ cm

(continued on the next page)

29. continued.

Look at the diagram for Question 29(b) in the Diagram Book.

Triangle **EGH** is congruent to triangle **KGF**

**HGE** is a right angle.

**FGK** is a right angle.

**HK = 10 cm**

**HG = 4 cm**

(b) Work out the length of **EF**  
(2 marks)

\_\_\_\_\_ cm

(Total for Question 29 is 4 marks)

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**TOTAL FOR PAPER IS 80 MARKS**

**END OF PAPER**

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