

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

<b>Total Marks</b>
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**Mathematics**  
**Paper 2**  
**(Calculator)**  
**Foundation Tier**

**Thursday 6 June 2019 – Morning**

**Time: 1 hour 30 minutes plus your  
additional time allowance.**

**In the boxes below, write your name,  
centre number and candidate number.**

<b>Surname</b>					
<b>Other names</b>					
<b>Centre Number</b>					
<b>Candidate Number</b>					

**YOU MUST HAVE**

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

**YOU WILL BE GIVEN**

**Diagram Book**

**Turn over**

# **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 and models are NOT accurate unless otherwise indicated.**

**CALCULATORS MAY BE USED.**

**If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be  $3.142$  unless the question instructs otherwise.**

**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.**

**Answer ALL questions.**

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

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

**1. Write  $0.75$  as a fraction.**

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**(Total for Question 1 is 1 mark)**

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**2. Write the following five numbers in order of size.**

**Start with the smallest number.**

**−3    4    0    −1    2**

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**(Total for Question 2 is 1 mark)**

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**3. Write down two factors of 15**

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**(Total for Question 3 is 1 mark)**

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4. Change 1756 grams to kilograms.

\_\_\_\_\_ kg

(Total for Question 4 is 1 mark)

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**5. Write the number two million in figures.**

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**(Total for Question 5 is 1 mark)**

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6. Dave goes into a cafe and buys  
2 cups of coffee and a piece of cake.

Each cup of coffee costs £2.75

The cake costs £2.90

Dave pays with a £10 note.

He thinks he will get more than £1.50  
in change.

Is Dave correct?

You must show how you get your  
answer.

(3 marks)

Answer space is on the next two pages.

Turn over

6. continued.

**6. continued.**

**(Total for Question 6 is 3 marks)**

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**Turn over**

7. There are  $y$  boats on a lake.  
There are 7 people in each boat.

Write an expression, in terms of  $y$ ,  
for the total number of people in the  
boats.

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(Total for Question 7 is 1 mark)

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Turn over

8. (a) Simplify

$$m \times n \times 7$$

(1 mark)

---

(continued on the next page)

**6. continued.**

**(b) Simplify**

$$y \times y \times y$$

**(1 mark)**

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**(continued on the next page)**

**Turn over**



8. continued.

(c) Simplify fully

$$\frac{e \times e \times e \times f}{e \times e \times f \times f}$$

(2 marks)

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(Total for Question 8 is 4 marks)

---

Turn over

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

**The incomplete pictogram shows information about the number of vinyl records sold in a shop on Monday and on Tuesday.**

- (a) Write down the number of vinyl records sold**

- (i) on Monday,  
(1 mark)**
- 

**(continued on the next page)**

**Turn over**

**9. (a) continued.**

**(ii) on Tuesday.**

**(1 mark)**

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**(continued on the next page)**

**9. continued.**

**On Wednesday and Thursday a total of 36 vinyl records were sold.**

**The number of records sold on Thursday was 8 times the number of records sold on Wednesday.**

**(b) Use this information to complete the pictogram.**

**(3 marks)**

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

**9. (b) continued.**

**(Total for Question 9 is 5 marks)**

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**Turn over**

10. Here are three symbols.

**<      >      =**

**Write one of these symbols in each box to make four true statements.**

**14**

**21**

**4 + 7**

**103 – 92**

**2<sup>2</sup>**

**2 × 2**

**–3**

**–5**

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

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**Turn over**

- 11. Work out the value of  $P$  when  $r = 5$   
and  $q = -4$  given that  $P = 7r + 3q$**

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

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

**It shows part of a train timetable.**

**Graham gets to the station in Brighton at 07 15**

**(a) Work out how many minutes he has to wait until 07 22**  
**(1 mark)**

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

**(continued on the next page)**

**Turn over**



**12. continued.**

- (b) Work out how long it will take the  
07 22 train to get to London.  
(2 marks)**

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**(Total for Question 12 is 3 marks)**

---

**Turn over**

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

**It shows nine identical shaded squares inside a rectangle.**

**The length of the rectangle is 12 cm**

**Work out the width of the rectangle.**

**(3 marks)**

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

**13. continued.**

\_\_\_\_\_ **cm**

**(Total for Question 13 is 3 marks)**

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**Turn over**

**14. Write the ratio  $4 \cdot 5 : 2 \cdot 25$  in the form  $n : 1$**

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**(Total for Question 14 is 1 mark)**

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

**It shows a garden in the shape of a rectangle 90 metres by 60 metres.**

**Flowers are grown in 40% of the garden.**

**The rest of the garden is grass.**

**Work out the area of the garden that is grass.**

**(4 marks)**

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

**15. continued.**

**Turn over**

**15. continued.**

\_\_\_\_\_  $\text{m}^2$

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

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**Turn over**

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

**Four biased coins, A, B, C and D are thrown.**

**The probability that each coin will land on Heads is shown in the table.**

**(a) (i) Which coin is least likely to land on Heads?**

**(1 mark)**

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**(continued on the next page)**

**Turn over**



**16. (a) continued.**

**(ii) Which coin is most likely to  
land on Heads?**

**(1 mark)**

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**(continued on the next page)**

**16. continued.**

**Julie says,**

**“The probability that coin C will land on Heads is the same as the probability that coin C will land on Tails.”**

**(b) Is she correct?**

**Give a reason for your answer.**

**(1 mark)**

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**(continued on the next page)**

**Turn over**

**16. continued.**

**Coin B is going to be thrown  
4000 times.**

- (c) Work out an estimate for the  
number of times coin B will land  
on Heads.  
(2 marks)**

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**(Total for Question 16 is 5 marks)**

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**Turn over**

**17. There are 84 calories in 100 grams of banana.**

**There are 87 calories in 100 grams of yogurt.**

**Priti has 60 grams of banana and 150 grams of yogurt for breakfast.**

**Work out the total number of calories in this breakfast.**

**(4 marks)**

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

**17. continued.**

**Turn over**

**17. continued.**

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**(Total for Question 17 is 4 marks)**

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**Turn over**

**18. Machine A and machine B both make car parts.**

**Machine A makes 6 parts every 10 minutes.**

**Machine B makes 13 parts every 15 minutes.**

**On Monday**

**machine A makes parts for 12 hours**

**machine B makes parts for 10 hours**

**Work out the total number of parts made by the two machines on Monday.  
(4 marks)**

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

**Turn over**

**18. continued.**

**Turn over**



**18. continued.**

**Turn over**

**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 plan of a kitchen drawn to a scale of 1 : 30**

**Sam is going to put a small table in the kitchen.**

**The table has to be  
more than 180 cm from A  
more than 150 cm from BC**

**Show, by shading on the diagram, the region where Sam can put the table.  
Answer space is on the next page.**

**19. continued.**

**(Total for Question 19 is 4 marks)**

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**Turn over**

**20. (a) Solve**

$$14n > 11n + 6$$

**(2 marks)**

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**(continued on the next page)**

**Turn over**

**20. continued.**

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

**On the number line, show the set  
of values of  $x$  for which**

$$\mathbf{-2 < x + 3 \leq 4}$$

**(3 marks)**

**(Total for Question 20 is 5 marks)**

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**Turn over**

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

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

**(Total for Question 21 is 3 marks)**

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**Turn over**

**22. Look at the table for Question 22 in the Diagram Book.**

**Hannah is planning a day trip for 195 students.**

**She asks a sample of 30 students where they want to go.**

**Each student chooses one place.**

**The table shows information about her results.**

**(continued on the next page)**



**22. continued.**

- (i) Work out how many of the  
195 students you think will want  
to go to the Theme Park.**

**(2 marks)**

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

**22. (i) continued.**

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**(continued on the next page)**

**Turn over**

**22. continued.**

**(ii) State any assumption you made  
AND explain how this may affect  
your answer.**

**(1 mark)**

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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.**

**It shows a container in the shape of a cuboid, with length 30 cm, width 6 cm, and height 19 cm**

**The container is  $\frac{2}{3}$  full of water.**

**A cup holds 275 ml of water.**

**What is the greatest number of cups that can be completely filled with water from the container?**

**(4 marks)**

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

**Turn over**

**23. continued.**

**Turn over**

**23. continued.**

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**(Total for Question 23 is 4 marks)**

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**Turn over**

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

**ABC is a right-angled triangle.**

**AC = 16 cm**

**Angle ACB =  $38^\circ$**

**Angle ABC is a right angle.**

**Calculate the length of AB**

**Give your answer correct to**

**2 decimal places.**

**(2 marks)**

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

**24. continued.**

\_\_\_\_\_ **cm**

**(Total for Question 24 is 2 marks)**

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**Turn over**



**25. Sally used her calculator to work out the value of a number  $y$**

**The answer on her calculator display began**

**$8.3$**

**Complete the error interval for  $y$**

**\_\_\_\_\_  $\leq y <$  \_\_\_\_\_**

**(Total for Question 25 is 2 marks)**

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**Turn over**

**26. £360 is shared between Abby, Ben, Chloe and Denesh.**

**The ratio of the amount Abby gets to the amount Ben gets is 2 : 7**

**Chloe and Denesh each get 1.5 times the amount Abby gets.**

**Work out the amount of money that Ben gets.**

**(4 marks)**

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

**26. continued.**

**Turn over**

**26. continued.**

£ \_\_\_\_\_

**(Total for Question 26 is 4 marks)**

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**Turn over**

**27. (a) Write**

**$0.00562$  in standard form.**

**(1 mark)**

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**(b) Write**

**$1.452 \times 10^3$  as an ordinary  
number.**

**(1 mark)**

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**(Total for Question 27 is 2 marks)**

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**Turn over**

**28. Here are the first five terms of a Fibonacci sequence.**

**3      3      6      9      15**

**(a) Write down the next two terms of the sequence.**

**(1 mark)**

\_\_\_\_\_ , \_\_\_\_\_

**(continued on the next page)**

**28. continued.**

**The first three terms of a different  
Fibonacci sequence are**

**a      a      2a**

**(b) Find the 6th term of this  
sequence.**

**(2 marks)**

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

**Turn over**

**28. (b) continued.**

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

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**Turn over**



29.

$$\mathbf{a} = \begin{pmatrix} 4 \\ 5 \end{pmatrix}$$

$$\mathbf{b} = \begin{pmatrix} 3 \\ 2 \end{pmatrix}$$

Work out  $\mathbf{a} - 2\mathbf{b}$  as a column vector.

$$\begin{pmatrix} \phantom{0} \\ \phantom{0} \end{pmatrix}$$

(Total for Question 29 is 2 marks)

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Turn over

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**TOTAL FOR PAPER IS 80 MARKS**

**END OF PAPER**

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