

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

<b>Total Marks</b>
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**Mathematics**  
**Paper 1**  
**(Non–Calculator)**  
**Foundation Tier**

**Tuesday 19 May 2020 – 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. 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.**

**You may be provided with a model for Question 27  
It is NOT accurate.**

**You may be provided with a shape for Question 11**

**There may be spare copies of some diagrams.**

**Turn over**

**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 the following four numbers in order of size.

Start with the smallest number.

0.32

0.4

0.35

0.309

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(Total for Question 1 is 1 mark)

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**2. Here is a list of five numbers.**

**5**

**11**

**18**

**22**

**29**

**From the list, write down a multiple  
of 3**

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

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**3. Write**

**4.666 correct to the nearest whole number.**

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

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**Turn over**

**4. Write**

**$\frac{3}{4}$  as a decimal.**

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**(Total for Question 4 is 1 mark)**

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**Turn over**

- 5. Write down the value of the 7 in the number 8765**

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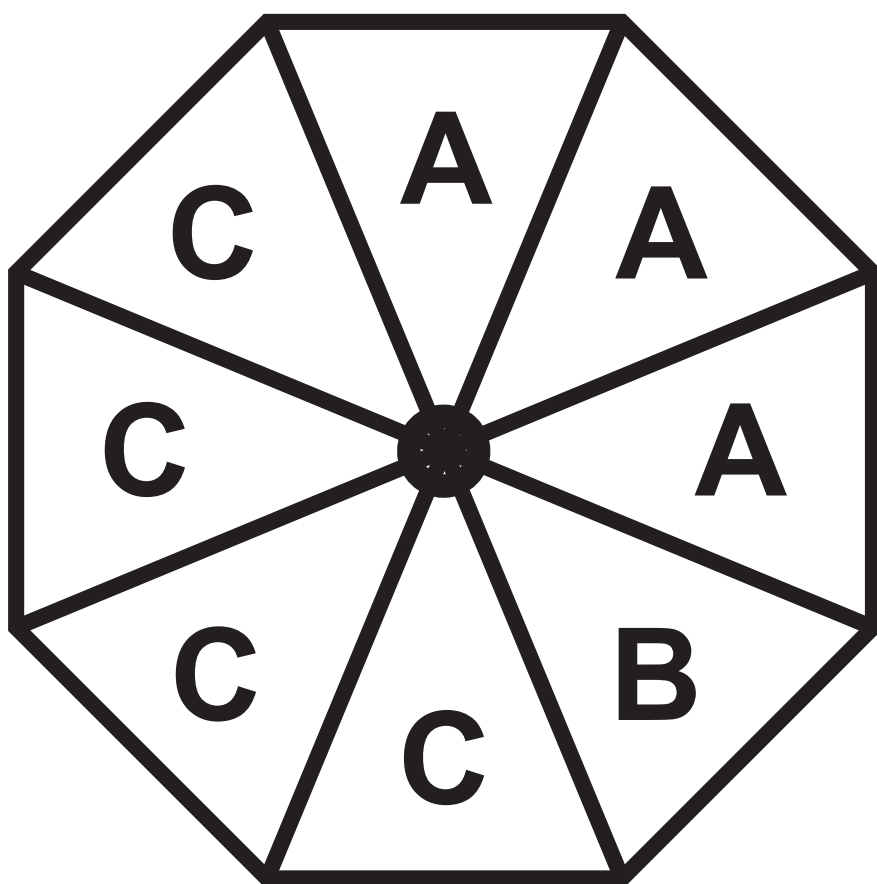
**(Total for Question 5 is 1 mark)**

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**6. Look at the diagrams for Question 6 in the Diagram Book.**

**They show two probability scales.**

**Gita spins a fair 8-sided spinner.**



- (a) On the probability scale for Question 6(a), mark the probability that the spinner will land on C**  
**(1 mark)**

**(continued on the next page)**

**Turn over**

**6. continued.**

**(b) On the probability scale  
for Question 6(b), mark the  
probability that the spinner will  
land on D  
(1 mark)**

**(Total for Question 6 is 2 marks)**

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

**It is an incomplete pictogram which shows information about the number of eggs sold from a farm shop on Monday.**

**On Monday the shop sold 18 eggs.**

**On Tuesday the shop sold 24 eggs.**

**On Wednesday the shop sold 27 eggs.**

**Use this information to complete the pictogram and the key.**

**(4 marks)**

**Working out space is on the next page.**

**Turn over**

**7. continued.**

**(Total for Question 7 is 4 marks)**

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**Turn over**

**8. Look at the diagram for Question 8 in the Diagram Book.**

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

**(a) Write down the coordinates of the point A**

**(1 mark)**

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

**(continued on the next page)**



**8. continued.**

**(b) Write down the coordinates of  
the point B  
(1 mark)**

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

**(c) On the grid, mark the  
point  $(-2, 1)$   
Label this point C  
(1 mark)**

**(Total for Question 8 is 3 marks)**

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**Turn over**

9. (a) A bag contains red counters and blue counters only.

number of red counters : number of blue counters = 3 : 4

Write down the fraction of the counters that are red.

(1 mark)

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(continued on the next page)

Turn over

**9. continued.**

**(b) Write the ratio  $12 : 30$  in the  
form  $1 : n$   
(2 marks)**

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**(Total for Question 9 is 3 marks)**

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**Turn over**

**10. Jenny has 12 marbles.**

**$\frac{1}{4}$  of these 12 marbles are large.**

**The rest of these 12 marbles are small.**

**Each large marble has a weight of 70 grams.**

**Each small marble has a weight of 50 grams.**

**Work out the total weight of the 12 marbles.**

**(4 marks)**

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

**Turn over**

**10. continued.**

**Turn over**

**10. continued.**

\_\_\_\_\_ grams

**(Total for Question 10 is 4 marks)**

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**Turn over**

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

**It shows a shaded shape on a grid.**

**Reflect the shaded shape in the  
mirror line.**

**You do not need to shade your shape.**

**A cut out shape may be available if  
you wish to use it.**

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

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

**It shows a number machine.**

**(a) Find the output when the input  
is 7**

**(1 mark)**

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**(continued on the next page)**

**Turn over**



**12. continued.**

**(b) Find the input when the output  
is 41**

**(2 marks)**

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

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**Turn over**

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

**It is accurately drawn.**

**The diagram shows two points, A and B, on a map.**

**(a) Find the bearing of B from A**  
**(1 mark)**



**(continued on the next page)**

**Turn over**

**13. continued.**

**(b) Work out the real distance  
between A and B**

**Give your answer in kilometres.**

**(3 marks)**

\_\_\_\_\_ kilometres

**(Total for Question 13 is 4 marks)**

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**Turn over**

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

**Ishmael asked 30 students at college to tell him the sport they each like the best from cricket or tennis or swimming.**

**11 of the 20 female students said swimming.**

**2 of the male students said tennis.**

**5 students said cricket.**

**(continued on the next page)**

**14. continued.**

**The number of male students who said cricket was the same as the number of male students who said swimming.**

**Complete the two–way table in the Diagram Book.**

**There are ten spaces to fill.**

**(Total for Question 14 is 3 marks)**

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**15. Jamil makes a drink by mixing 1 part of orange squash with 9 parts of water.**

**He uses 750 millilitres of orange squash.**

**Jamil is going to put the drink he has mixed into 1 litre bottles.**

**Work out the greatest number of 1 litre bottles that Jamil can completely fill.**

**(3 marks)**

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

**15. continued.**

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**(Total for Question 15 is 3 marks)**

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**Turn over**

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

**It gives information about the number of points scored by each of 16 students in a game.**

**(continued on the next page)**



**16. continued.**

**Tina worked out the median of the  
number of points scored to be 5**

**(a) Explain why it is NOT possible  
for the median to be 5  
(1 mark)**

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**(continued on the next page)**

**Turn over**

**16. continued.**

**Tina also worked out the total number of points scored by the 16 students in the game.**

**Here is her working.**

$$\begin{aligned} &(0 \times 1) + (1 \times 3) + (2 \times 5) + \\ &(3 \times 4) + (4 \times 3) = 1 + 3 + 10 + \\ &12 + 12 = 38 \end{aligned}$$

**(continued on the next page)**

**16. continued.**

**Tina made a mistake in her working to find the total number of points scored.**

**(b) Describe the mistake that Tina made.**

**(1 mark)**

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**(Total for Question 16 is 2 marks)**

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**Turn over**

**17. In a shop, a TV has a normal price of £500**

**The shop has a sale.**

**On Monday, the normal price of the TV is reduced by  $\frac{1}{10}$  to give the sale price.**

**On Tuesday, the sale price of the TV is reduced by 20%**

**Chris wants to buy the TV.**

**He has £400 to spend on the TV.**

**(continued on the next page)**

**17. continued.**

**Does Chris have enough money to  
buy the TV on Tuesday?**

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

**(5 marks)**

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

**17. continued.**

**Turn over**

**17. continued.**

**Turn over**

**17. continued.**

**(Total for Question 17 is 5 marks)**

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**Turn over**



**18. Work out an estimate for**

$$\frac{790 \times 289}{49}$$

**(3 marks)**

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

**18. continued.**

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**(Total for Question 18 is 3 marks)**

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**Turn over**

- 19. (a) Expand**  
 **$x(x - 4)$**   
**(1 mark)**
- 

**(continued on the next page)**

**19. continued.**

**(b) Factorise**

$$15y - 10$$

**(1 mark)**

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**(continued on the next page)**

**Turn over**

**19. continued.**

**(c) Solve**

$$7(p - 5) = 28$$

**(2 marks)**

**p = \_\_\_\_\_**

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

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**Turn over**

**20. The first five terms of an arithmetic sequence are**

**1      4      7      10      13**

**Write down an expression, in terms of  $n$ , for the  $n$ th term of this sequence.**

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**(Total for Question 20 is 2 marks)**

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**Turn over**

**21. Show that**

$$2\frac{1}{3} \times 3\frac{3}{4} = 8\frac{3}{4}$$

**(3 marks)**

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

**21. continued.**

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

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**Turn over**



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

**They show four graphs labelled graph A, graph B, graph C and graph D**

**Each of the equations in the table on the next page is the equation of one of the graphs.**

**22. continued.**

**Complete the table.**

<b>Equation</b>	<b>Letter of graph</b>
$y = -x^3$	
$y = x^3$	
$y = x^2$	
$y = \frac{1}{x}$	

**(Total for Question 22 is 2 marks)**

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**Turn over**

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

**It shows four triangles.**

**Two of these triangles are congruent.**

**Write down the letters of these  
two triangles.**

\_\_\_\_\_ and \_\_\_\_\_

**(Total for Question 23 is 1 mark)**

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**24. Sean pays £10 for 24 chocolate bars.**

**He sells all 24 chocolate bars for 50 pence each.**

**Work out Sean's percentage profit.  
(3 marks)**

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

**24. continued.**

\_\_\_\_\_ %

**(Total for Question 24 is 3 marks)**

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**Turn over**

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

**It shows the triangle ADC**

**AED and ABC are straight lines.**

**EB is parallel to DC**

**Angle EBC =  $148^\circ$**

**Angle ADC =  $63^\circ$**

**Work out the size of angle EAB**

**You must give a reason for each stage of your working.**

**(5 marks)**

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

**Turn over**

**25. continued.**

**Turn over**

**25. continued.**

**(Total for Question 25 is 5 marks)**

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**Turn over**



**26. Look at the table and the diagram for Question 26 in the Diagram Book.**

**The table shows information about the heights, in **cm**, of a group of girls in Year 9**

**The stem and leaf diagram shows information about the heights, in **cm**, of a group of **15** boys in Year 9**

**(continued on the next page)**

**26. continued.**

**Compare the distribution of the heights of the girls with the distribution of the heights of the boys.**

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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.**

**You may be provided with a model.**

**The diagram and the model show a prism placed on a horizontal floor.**

**The prism has height 3 metres.**

**The volume of the prism is  $18 \text{ m}^3$**

**The pressure on the floor due to the prism is  $75 \text{ newtons/m}^2$**

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

**(continued on the next page)**

**Turn over**

**27. continued.**

**Work out the force exerted by the prism on the floor.**

**(3 marks)**

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

**27. continued.**

\_\_\_\_\_ newtons

**(Total for Question 27 is 3 marks)**

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**Turn over**

**28. Write these four numbers in order of size.**

**Start with the smallest number.**

$$6.72 \times 10^5$$

$$67.2 \times 10^{-4}$$

$$672 \times 10^4$$

$$0.000672$$

**(2 marks)**

**Answer space and answer lines  
continue on the next page.**

**Turn over**

**28. continued.**

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**(Total for Question 28 is 2 marks)**

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**29. Given that**

$$\frac{w}{x} = \frac{2}{5} \quad \text{and} \quad \frac{x}{y} = \frac{3}{4}$$

**find  $w : x : y$**

**(3 marks)**

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



**29. continued.**

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**(Total for Question 29 is 3 marks)**

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**Turn over**

**30. (a) Make  $q$  the subject of**

$$p = 6q + 7$$

**(2 marks)**

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**(continued on the next page)**

**Turn over**

**30. continued.**

**(b) Simplify**

$$(m^{-2})^{-3}$$

**(1 mark)**

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**(Total for Question 30 is 3 marks)**

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**Turn over**

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**TOTAL FOR PAPER IS 80 MARKS**

**END OF PAPER**

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