Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.											/			Signature	

Paper Reference(s)

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics

Paper 1 (Non-Calculator)

Foundation Tier

Specimen paper

Time: 1 hour and 30 minutes

Materials required for examination

Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers

Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
If you need more space to complete your answer to any question, use additional answer sheets.
You must NOT write on the formulae page. Anything you write on the formulae page will gain NO credit.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 28 questions in this question paper. The total mark for this paper is 100.
There are 24 pages in this question paper. Any blank pages are indicated.
Calculators must not be used.

Advice to Candidates

Show all stages in any calculations.
Work steadily through the paper. Do not spend too long on one question.
If you cannot answer a question, leave it and attempt the next one.
Return at the end to those you have left out.

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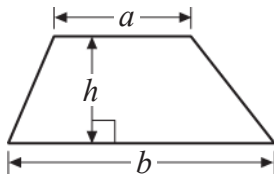
GCSE Mathematics

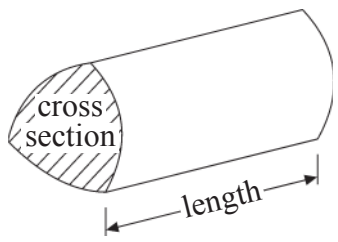
Formulae: Foundation Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section × length



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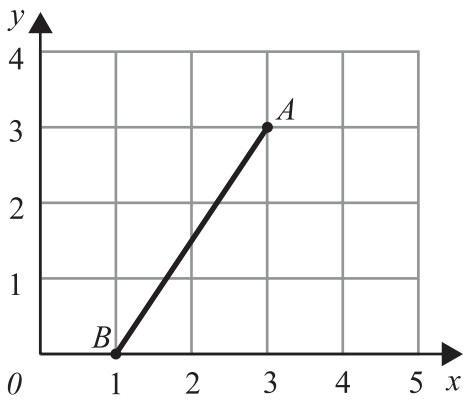
Answer ALL TWENTY EIGHT questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

You must NOT use a calculator.

1.



(a) Write down the coordinates of the point

(i) A,

(..... , ...)

(ii) B.

(..... , ...)

(2)

(b) On the grid, mark with a cross (×) the midpoint of the line AB.

(1)

Q1

(Total 3 marks)

2. Here are the first five terms of a number sequence.

290 284 278 272 266

Write down the next two terms of the number sequence.

..... , ...

Q2

(Total 1 mark)

Leave blank

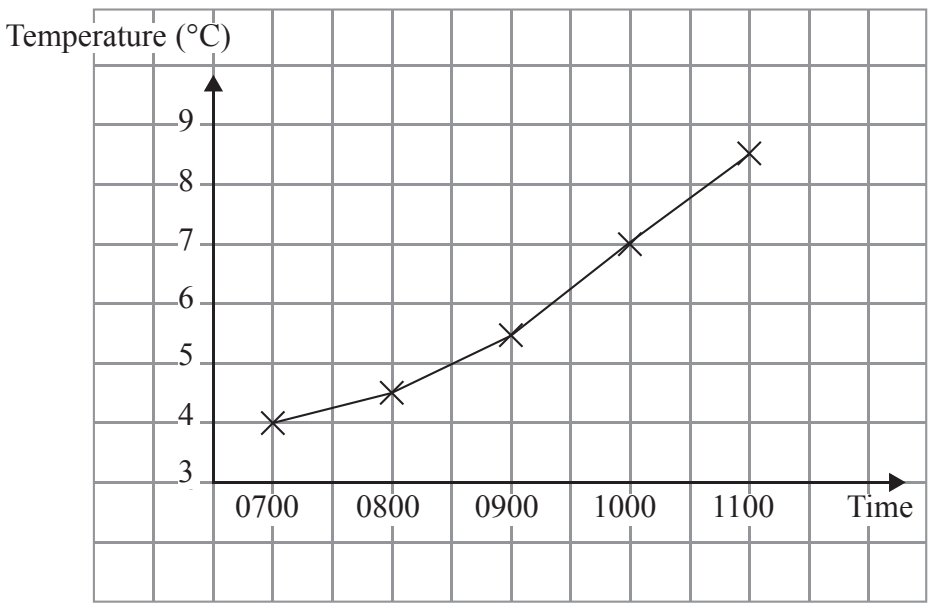
3. The table shows the temperature at midday on each day of a week during winter.

Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Temperature °C	6	8	6	7	8	8	7

(a) Work out the median temperature.

.....ºC
(2)

The graph shows the temperature from 0700 to 1100 during one day.



(b) What was the temperature at 1000?

.....°C
(1)

(c) What was the temperature at 0800?

.....°C
(1)
(Total 4 marks)

Q3

Leave blank

4. A gardener planted some bulbs in October.
The following year the bulbs grew into flowers.
The table shows the months in which each type of bulb grew into flowers.

		Month					
		Jan	Feb	March	April	May	June
Type of bulb	Alliums				✓	✓	✓
	Crocuses	✓	✓	✓			
	Daffodils		✓	✓	✓		
	Irises	✓	✓				
	Tulips		✓	✓	✓		

(a) In which months do crocus bulbs grow into flowers?

.....

(1)

(b) Which type of bulb grows into flowers in June?

.....

(1)

(c) In which months does only **one** type of bulb grow into flowers?

.....

(1)

(d) Which type of bulb grows into flowers in the same months as the tulip bulb?

.....

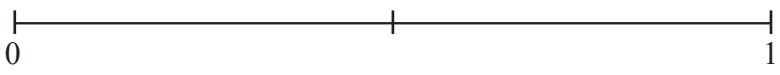
(1)

Ben puts one of each type of bulb in a bag.
He takes a bulb from the bag without looking.

(e) (i) Write down the probability that he will take a daffodil bulb.

.....

(ii) On the probability scale, mark with a cross (×) the probability that he will take a bulb that grows into a flower in March.



(2)

Q4

(Total 6 marks)

Leave blank

5. (a) Write the number **thirteen thousand**, **five hundred and ninety-one** in figures.

.....

(1)

(b) Write down the value of the 7 in the number 547 682

.....

(1)

(c) Write the number 8183 correct to the nearest hundred.

.....

(1)

Q5

(Total 3 marks)

6. (a) Complete the table by writing a sensible metric unit on each dotted line.
The first one has been done for you.

The distance from London to Manchester	222 kilometres
The volume of coffee in a mug	310 .....
The height of a door	215 .....
The weight of a one pound coin	12 .....

(3)

(b) Change 8 kilometres to metres.

.....m

(1)

Q6

(Total 4 marks)

Leave blank

7. Here is a list of 8 numbers.

9 I0 25 32 49 55 69 80

(a) Write down **two** numbers from the list with a sum of 57

..... , ...

(1)

(b) Write down a number from the list which is

(i) a multiple of 8,

.....

(ii) a square number.

.....

(2)

cube	multiple	factor	product

(c) Use a word from the box to complete this sentence correctly.

10 is a ..... of 80

(1)

Here are 8 numbers.

88	82	69	68
36	I8	I6	I I

(d) From these numbers, write down a number which has

(i) exactly **one** line of symmetry,

.....

(ii) 2 lines of symmetry **and** rotational symmetry of order 2,

.....

(iii) rotational symmetry of order 2 but **no** lines of symmetry.

.....

(3)

(Total 7 marks)

Q7

Leave blank

8. Work out 437 × 24

.....

Q8

(Total 3 marks)

Leave blank

9. The table can be used to convert euros (€) to pounds (£).

Euros (€)	Pounds (£)
0.10	0.08
0.20	0.16
0.50	0.40
1	0.80
2	1.60
3	2.40
4	3.20

(a) Change €2 to pounds.

£.....
(1)

(b) Change €3.50 to pounds.

£.....
(2)

(Total 3 marks)

Q9

10. Write these numbers in order of size.
Start with the smallest number.

(a) 91 109 17 140 83

.....
(1)

(b) −4 4 1 −8 −2

.....
(1)

(c) 70% $\frac{3}{4}$ 0.6 $\frac{2}{3}$

.....
(2)

(Total 4 marks)

Q10

Leave blank

11.

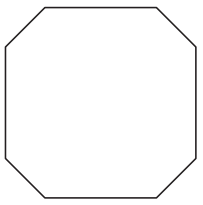


Diagram **NOT** accurately drawn

The diagram shows a shape.
The shape is an 8-sided polygon.

(a) Write down the mathematical name for an 8-sided polygon.

.....

(1)

The diagram below shows how four of the shapes fit round a square.

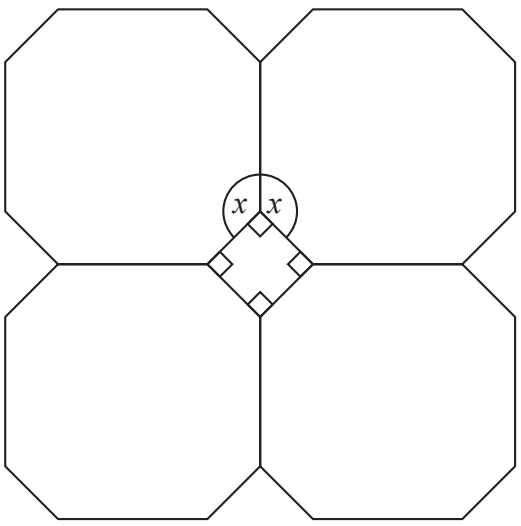


Diagram **NOT** accurately drawn

The size of each of the angles marked x is 135°

(b) Give reasons why.

.....

.....

.....

(2)

Leave blank

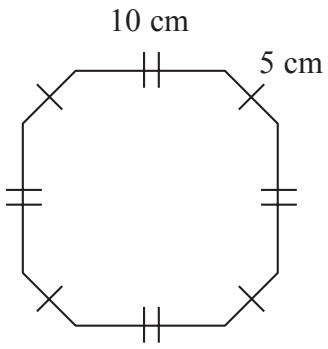


Diagram **NOT** accurately drawn

The diagram shows the lengths of two of the sides of the shape.

(c) Work out the perimeter of the shape.

.....cm
(2)

(Total 5 marks)

Q11

12. (a) Write 60% as a fraction.
Give your fraction in its simplest form.

.....
(1)

(b) 55% of the students in a school are female.
What percentage of students are male?

..... %
(1)

(Total 2 marks)

Q12

Leave blank

13. Angela asked 20 people in which country they spent their last holiday.
Here are their answers.

France	Spain	Italy	England
Spain	England	France	Spain
Italy	France	England	Spain
Spain	Italy	Spain	France
England	Spain	France	Italy

Design **and** complete a suitable data collection sheet that Angela could have used to show this information.

Q13

(Total 4 marks)

Leave blank

14. Tina made a coach journey.
Her coach should have arrived at 15 50
It arrived 1 hour 20 minutes late.

(a) At what time did her coach arrive?

.....

(1)

The coach company has some vouchers to give to its customers.
The company uses this rule to work out the value of the vouchers to give to each customer.

Find $\frac{1}{10}$ of the amount spent
Then round **up** this answer to the next whole number of pounds

Bob spent £83.40

(b) (i) Work out $\frac{1}{10}$ of £83.40

£.....

(ii) Round up your answer to part (i) to the next whole number of pounds.

£.....

(3)

(Total 4 marks)

Q14

Leave blank

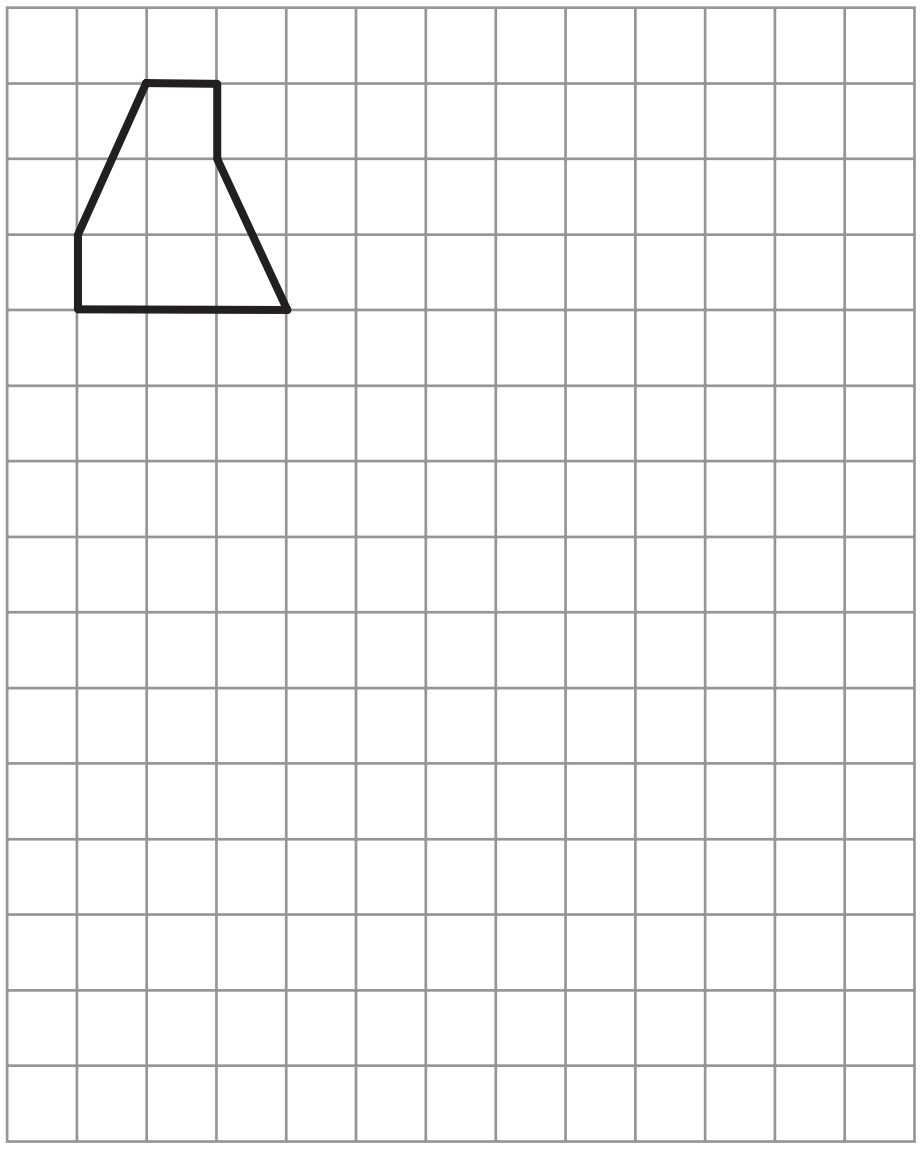
15. A shape has been drawn on a grid of one centimetre squares.

(a) Work out the area of the shape.

..... cm^2

(2)

(b) On the grid, enlarge the shape with a scale factor of 2.



(2)

Q15

(Total 4 marks)

Leave blank

16. 80 students each play in one of three mixed sports teams.
The two-way table shows some information about these students.

	Football	**Cricket**	**Hockey**	**Total**
Female		6		36
Male	23			44
Total	36	19		80

Complete the two-way table.

(Total 2 marks)

Q16

17. (a) Simplify $8p + 5q - 3p + 2q$

.....

(2)

(b) Simplify $5x + 8y - 2x - 3y$

.....

(2)

(c) Simplify $5w^2 - 2w^2$

.....

(1)

(Total 5 marks)

Q17

Leave blank

18. Work out $80 \times \frac{4}{5}$

.....

Q18

(Total 2 marks)

19. The diagram shows a 6-sided shape, *ABCDEF*.
All the sides of the shape are equal in length.

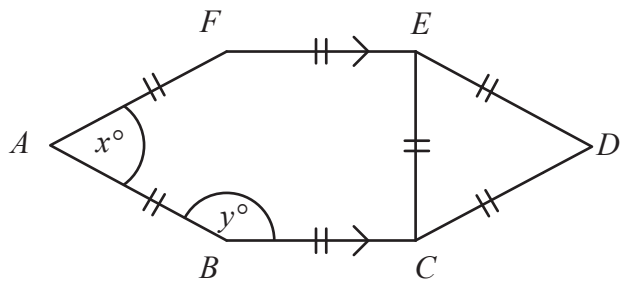


Diagram **NOT** accurately drawn

(a) (i) Find the value of *x*.

x = ...

(ii) Give a reason for your answer.

.....

.....

(2)

(b) Work out the value of *y*.

y = ...

(2)

Q19

(Total 4 marks)

Leave blank

20. This rule can be used to work out the cost, in pounds, of buying time on a satellite link.

Add 3 to the number of hours of time bought.
Multiply your answer by 1000

(a) Work out the cost of buying 4 hours of satellite time.

£.....

(2)

Julian bought some satellite time.
The cost was £12 000

(b) Work out the number of hours of satellite time that Julian bought.

.....hours

(2)

Q20

(Total 4 marks)

Leave blank

21. 20 students scored goals for the school hockey team last month.
The table gives information about the number of goals they scored.

Goals scored	Number of students	
1	9	
2	3	
3	5	
4	3	

Work out the mean number of goals scored.

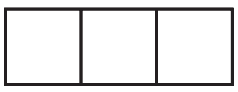
.....

(Total 3 marks)

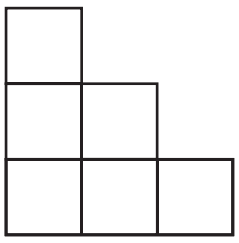
Q21

22. Here are the plan, front elevation and side elevation of a 3-D shape.

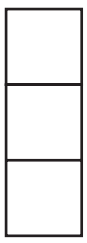
plan



front elevation



side elevation



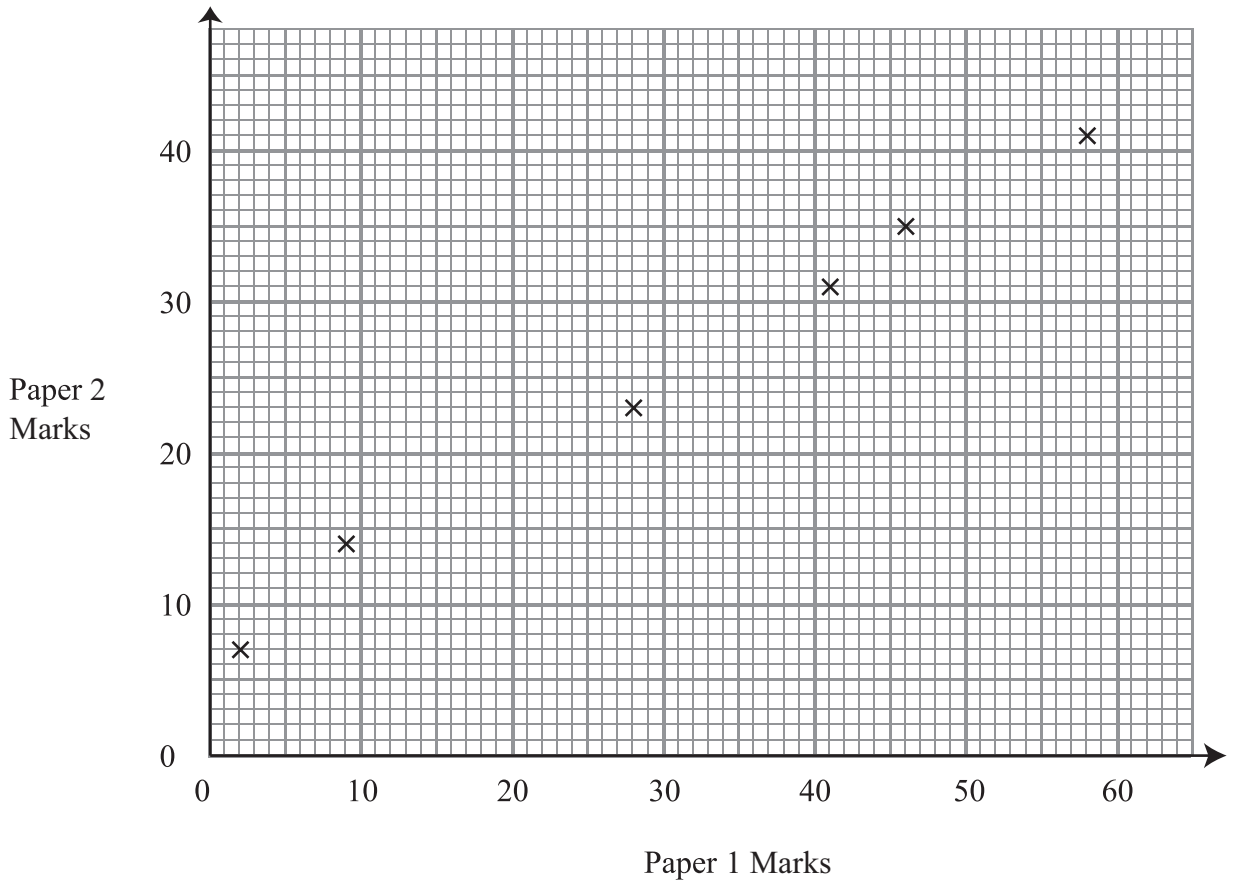
In the space below, draw a sketch of the 3-D shape.

(Total 2 marks)

Q22

Leave blank

23. The scatter graph shows some information about the marks of six students.
It shows each student's mark on Paper 1 and their mark on Paper 2.



The table shows the marks on Paper 1 and Paper 2 for two more students, A and B.

	Student A	Student B
Paper 1 mark	20	50
Paper 2 mark	20	35

(a) On the scatter graph, plot the information from the table.

(1)

(b) Describe the **correlation** between the marks on Paper 1 and the marks on Paper 2.

.....

(1)

Another student has a mark of 30 on Paper 2.

(c) Estimate the mark on Paper 1 for this student.

.....

(2)

(Total 4 marks)

Q23

Leave blank

24. Here are the ingredients needed to make 1000 ml of custard.

Custard

makes 1000 ml

800 ml of milk
6 large egg yolks
100 g sugar
4 teaspoons of cornflour

(a) Work out the amount of sugar needed to make 2500 ml of custard.

.....g
(2)

(b) Work out the amount of milk needed to make 1500 ml of custard.

.....ml
(2)

Q24

(Total 4 marks)

Leave blank

25. Tony wants to collect information about the amount of homework the students in his class get.

Design a suitable question he could use.

You should include response boxes.

Q25

(Total 2 marks)

Leave blank

26. Write as a power of 7

(i) $7^3 \times 7^4$

.....

(ii) $7^{11} \div 7^5$

.....

Q26

.....

(Total 2 marks)

27. (a) Solve $9 - 2x = 3(x + 2)$

$x =$ .....

(3)

(b) $-3 \leqslant y < 2$

y is an integer.

Write down all the possible values of y.

.....

(2)

Q27

(Total 5 marks)

Leave blank

28.

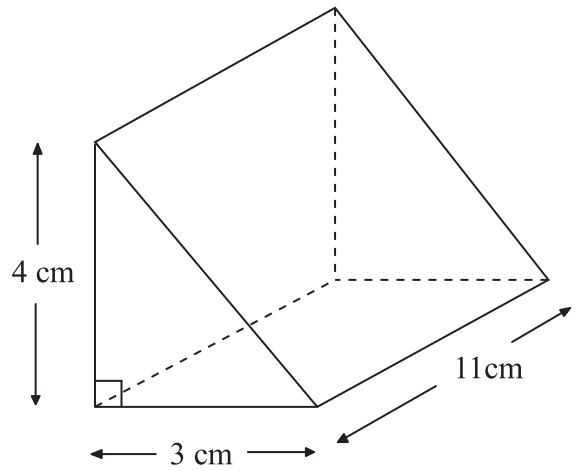


Diagram **NOT** accurately drawn

Work out the volume of the triangular prism.
Give the units with your answer.

Q28

....

(Total 4 marks)

TOTAL FOR PAPER: 100 MARKS

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