



# PiAcademy

## 11+ Mathematics GL Style - Pack 1 Test Paper - 4

### Instructions:

1. The time allowed is 50 minutes for 50 questions.
2. This is a multiple-choice test and each question carries 1 Mark.
3. Answers should be clearly marked in pencil on the provided answer sheet.
4. Do not turn over the booklet until you are told to do so.
5. No Marks are lost for an incorrect answer.
6. If you have marked the wrong answer, erase it and mark the new one. Make sure that your final answer is clear.

Symbols used:



Go to the next page.



Do not turn the page until told to do so.



Stop working and await instructions.

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1. Three matchsticks have the same length as four bottle caps.  
How many bottle caps will have the same length as 45 matchsticks?

(A) 50                      (B) 100                      (C) 75                      (D) 60                      (E) 30

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2. Find the price of an £82.50 plumber's bill when VAT is added at 2%

(A) £85.00                      (B) £84.15                      (C) £85.12                      (D) £87.50                      (E) £83.00

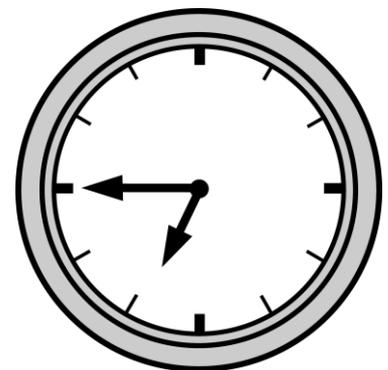
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3. Reg thinks of a number.  
He doubles the number.  
He adds seven.  
The answer is 23.  
What number did Reg think of?

(A) 9                      (B) 7                      (C) 10                      (D) 8                      (E) 6

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4. Here is a clock. How many minutes is it until this clock shows 7:23?

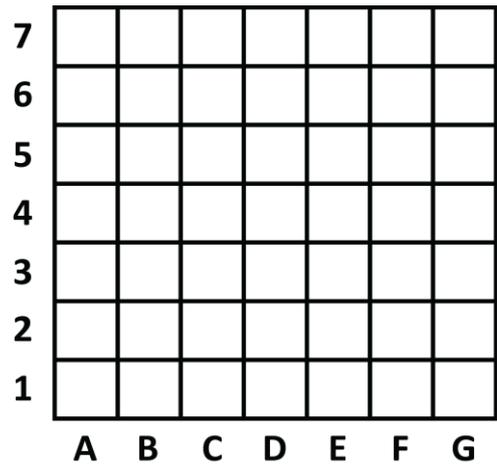


(A) 40 minutes                      (B) 35 minutes  
(C) 37 minutes                      (D) 43 minutes  
(E) 38 minutes





5. Which square is exactly halfway between squares A1 and G7.



- (A) C5                      (B) D4                      (C) E3                      (D) E6                      (E) C3

6. Which of these fractions is closest to 1?

$$\frac{4}{5} \quad \frac{19}{20} \quad \frac{9}{10} \quad 1\frac{1}{15} \quad 1\frac{3}{20}$$

- (A)  $\frac{4}{5}$                       (B)  $\frac{9}{10}$                       (C)  $1\frac{1}{15}$                       (D)  $\frac{19}{20}$                       (E)  $1\frac{3}{20}$

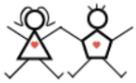
7. The table below shows the maximum and minimum temperatures in Helsinki from Monday to Friday of a week last year.

Day	Minimum Temperature	Maximum Temperature
Monday	7°C	11°C
Tuesday	3°C	7°C
Wednesday	-1°C	3°C
Thursday	-6°C	2°C
Friday	-8°C	-4°C

Which day had the greatest difference between the minimum temperature and the maximum temperature?

- (A) Friday                      (B) Monday                      (C) Thursday                      (D) Tuesday                      (E) Wednesday





8. 4 jars of mustard and 3 jars of beetroot have a total mass of 930 grams.  
5 jars of mustard have a total mass of 600 grams.  
Work out the total mass of 3 jars of mustard and 2 jars of beetroot.

(A) 700g      (B) 660g      (C) 720g      (D) 640g      (E) 740g

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9. Estimate the approximate weight of 30cm plastic ruler.

(A) 2g      (B) 200g      (C) 2kg      (D) 20kg      (E) 20g

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10. A bag contains some beads which are red or green or blue or yellow. The table shows the number of beads of each colour.

Colour	Red	Green	Blue	Yellow
Number of beads	3	1	4	6

Umayr takes a bead at random from the bag.

Write down the probability that he takes a blue bead. Write your answer in its simplest form.

(A)  $\frac{4}{7}$       (B)  $\frac{6}{14}$       (C)  $\frac{4}{14}$       (D)  $\frac{2}{7}$       (E)  $\frac{3}{14}$

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11. Here are the first seven terms in a number sequence.

2 5 4 7 6 9 8

What is the 15th term in this number sequence?

(A) 16      (B) 20      (C) 30      (D) 26      (E) 18





12. Which sum is correct?

(A)  $(9 \div 2 + 1) \times 4 = 12$

(B)  $9 \div 2 + (1 \times 4) = 12$

(C)  $9 \div (2 + 1 \times 4) = 12$

(D)  $9 \div (2 + 1) \times 4 = 12$

(E)  $(9 \div 2) + 1 \times 4 = 12$

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13. 272 children and 26 adults from Hill School go on a coach trip.

How many 42-seat coaches does the school need to hire?

(A) 7

(B) 9

(C) 10

(D) 8

(E) 6

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14. Find the circumference of a coin whose diameter is 5 cm? (use  $\pi = 3.14$ )

(A) 7.85cm

(B) 10.25cm

(C) 9.35cm

(D) 8.20cm

(E) 15.70cm

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15. Which of these letters has rotational symmetry of 2 ?

(A) D

(B) C

(C) P

(D) N

(E) M

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16. A clothes shop had a closing down sale. The sale started on Monday and finished on Sunday. For each day of the sale, prices were reduced by 25% of the prices on the day before.

A shirt had a price of £24 on Tuesday. John bought it on Thursday.

How much did he pay?

(A) £18.00

(B) £15.30

(C) £13.50

(D) £15.00

(E) £14.60

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17. There are 25 children in the lunch queue, including Nick.

Nick says 'There are twice as many children in front of me as there are behind me'

How many children are in front of Nick?

(A) 8

(B) 12

(C) 6

(D) 16

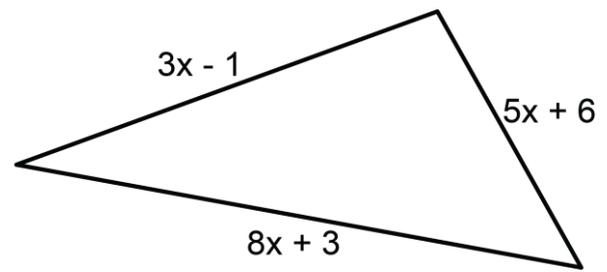
(E) 15





18. All of the lengths in the diagram above are measured in centimetres.

A square has the same perimeter as the triangle given on the right.



Write an expression in terms of  $x$  for the length of each side of the square.

- (A)  $4x + 4$       (B)  $3x + 4$       (C)  $4x + 2$       (D)  $2x + 4$       (E)  $3x + 3$
- 

19. Leila puts 4 seeds in each of her pots. She uses 6 pots and has 1 seed left over. How many seeds did she start with?

- (A) 20      (B) 10      (C) 25      (D) 15      (E) 19
- 

20. Maya is thinking of two numbers. The sum of the two numbers is 25. Both the numbers are factors of 126. What are the two numbers?

- (A) 17,8      (B) 19,6      (C) 12,13      (D) 7,18      (E) 21,6
- 

21. Stan is facing South-west and he turns through  $495^\circ$  in the anti-clockwise direction. Which direction is Stan now facing?

- (A) South-east      (B) North-west  
(C) East      (D) West  
(E) North
- 

22. Ethan writes the sequence:

**700, 35, 1.75, .....**

What is the next number in this sequence.

- (A) 0.875      (B) 0.0175  
(C) 0.0875      (D) 0.175  
(E) 0.825





23. Sabre wants to frame a square photograph that has an area of 64 square centimetres. Sabre makes the frame using 4 strips of aluminium. Each strip is 4 centimetres longer than the width of the photograph. What is the total length of the 4 strips aluminium he uses to make the frame?

(A) 32cm      (B) 40cm      (C) 48cm      (D) 56cm      (E) 36cm

24. You are given a set of seven numbers. You are not told the numbers but you know their mean is 9, the mode is 7 and range is 8. Five is added to all seven numbers. Calculate the new mean, mode and range.

(A) Mean = 14, Mode = 7, Range = 13      (B) Mean = 9, Mode = 7, Range = 8  
(C) Mean = 9, Mode = 12, Range = 13      (D) Mean = 14, Mode = 12, Range = 13  
(E) Mean = 14, Mode = 12, Range = 8

25. Ted has some counters in a bag.  
4 of the counters are red.  
8 of the counters are blue.  
The rest are yellow.

Ted takes a counter at random from the bag.

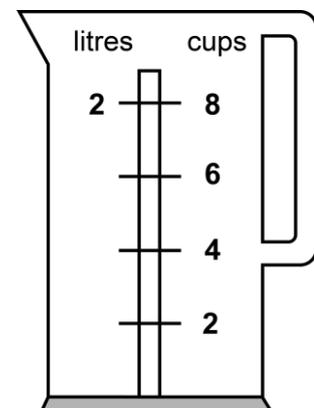
The probability that he takes a yellow counter is  $\frac{1}{4}$

How many yellow counters are in the bag before Ted takes a counter?

(A) 8      (B) 6      (C) 4      (D) 12      (E) 16

26. Casie's juicer holds 2 litres of water.

How many millilitres are equal to 3 cups?

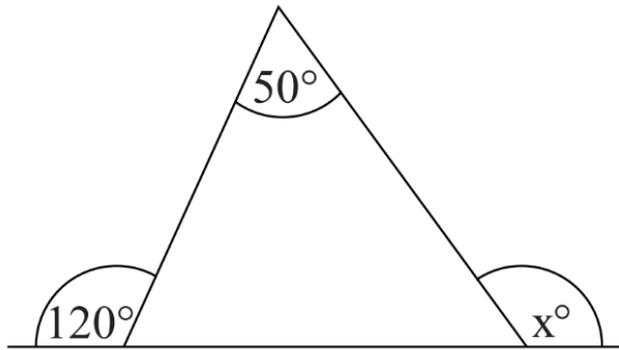


(A) 600ml      (B) 750ml      (C) 540ml      (D) 450ml      (E) 800ml





27. What is the size of the angle X marked in this diagram?



NOT TO SCALE

- (A)  $100^\circ$       (B)  $110^\circ$       (C)  $120^\circ$       (D)  $170^\circ$       (E)  $130^\circ$

28. Milly is using this cupcake recipe.

How many cups of sugar are needed for 20 cupcakes?

**Cupcake recipe**

Makes 4 cupcakes

**Ingredients**

1 cup flour

2 eggs

$1\frac{1}{2}$  cups milk

$\frac{3}{4}$  cup sugar

20g butter

- (A)  $\frac{15}{2}$       (B)  $3\frac{3}{4}$       (C) 5      (D) 10      (E)  $2\frac{2}{3}$

29. Jazz buys 4 avocados for £1.20 each.  
He pays for the avocados with a £5 note.  
How much change should Jazz receive?

- (A) £4.80      (B) £0.30      (C) £3.80      (D) 20p      (E) 40p



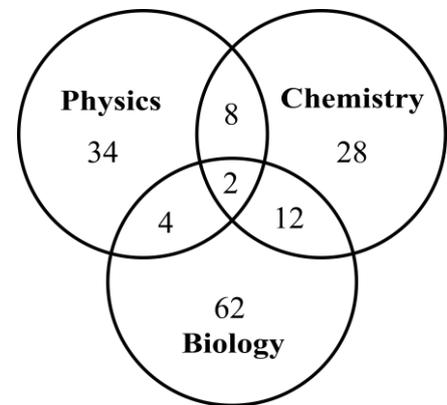


30. Mary uses the number sentence  $15 \times 12 = 180$  to solve a problem. Which of the following could be the problem?

- (A) Madison buys 15 toys. How much does each toy cost?      (B) Madison spends £15 on 180 toys. How much does she spend?
- (C) Madison buys 15 toys that cost £12 each. How many toys does she buy?      (D) Madison buys 12 toys that cost £15 each. How much does she spend?
- (E) Madison spends £15 on 180 toys. How much does each toy cost?

31. The subject choices in science at a high school are physics, chemistry and biology.

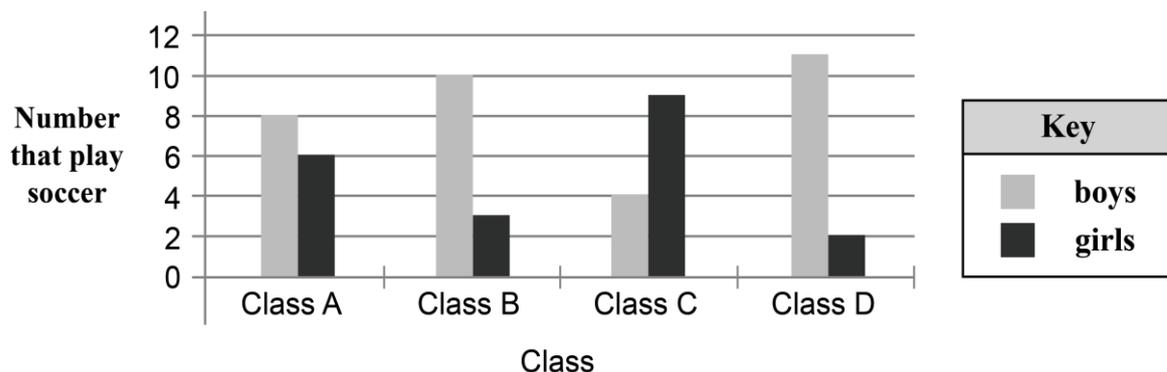
This Venn diagram shows the number of students who are studying each of the subjects.



How many of these students are studying at least two of these science subjects?

- (A) 2      (B) 24      (C) 26      (D) 54      (E) 150

32. Camilla asked each student in four year 6 classes if they played soccer. She recorded the results in the graph below.



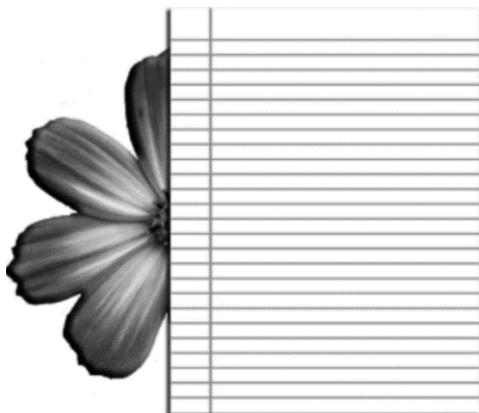
Which class had the highest number of students that played soccer?

- (A) Class A      (B) Class B      (C) Class C      (D) Class D      (E) Class B and Class D





33. A piece of paper is placed along a line of symmetry of a flower.

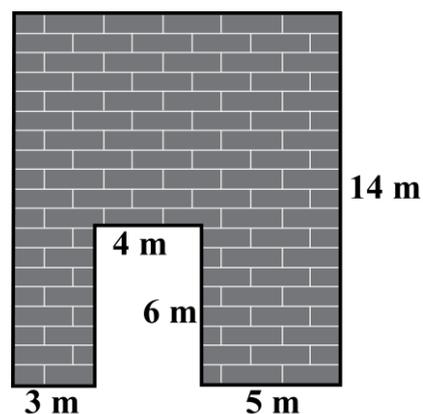


How many petals does the flower have?

- (A) 3                      (B) 5                      (C) 6                      (D) 7                      (E) 8

34. A plan of Gil's back deck is drawn below.

What is the perimeter of Gil's deck?

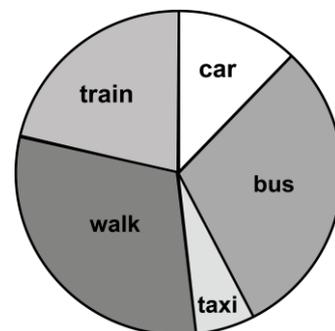


- (A) 32m                      (B) 58m                      (C) 60m                      (D) 64m                      (E) 52m

35. Some pupils were asked about their main form of travel to school that day.

The pie chart shows their results.

Which form of travel is the median?



- (A) Walk                      (B) Taxi                      (C) Train                      (D) Bus                      (E) Car

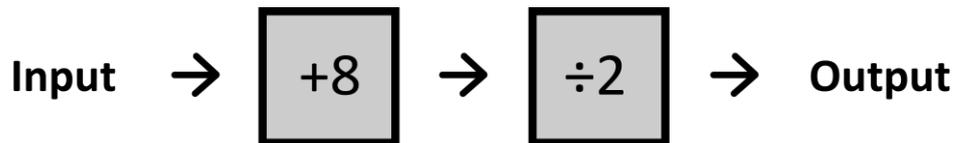




36. Rob, Sam and Tom share some sweets in the ratio 5:3:4.  
If they have 96 sweets between them, how many sweets will each boy get?

- (A) Each will get 32  
(B) Rob = 50 , Sam = 30 , Tom = 40  
(C) Rob = 40 , Tom = 24 , Sam = 32  
(D) Rob = 40 , Sam = 32 , Tom = 24  
(E) Tom = 32 , Sam = 24 , Rob = 40

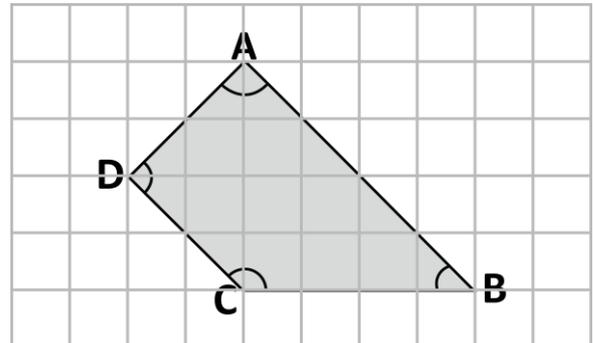
37. A function machine takes an input, adds 8, and then divides by 2



Find the input when the output is 26

- (A) 5                      (B) 44                      (C) 52                      (D) 8                      (E) 21

38. Here is a shape on a square grid.  
Which of these statements is true?



- (A) Angle C is a reflex angle  
(B) Angle D is an acute angle.  
(C) Line AD is parallel to line BC.  
(D) Line AB is perpendicular to line AD.  
(E) Angle C and Angle D are equal.

39. Here is a formula that is often used by physicists:

$$v = u + at$$

Find the value of  $t$  when  $v = 21$ ,  $u = 6$  and  $a = 5$ .

- (A) 1                      (B) 2                      (C) 3                      (D) 4                      (E) 5





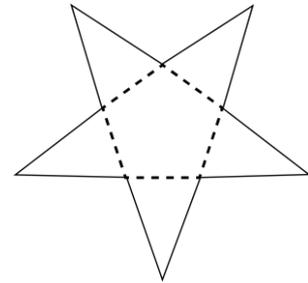
40. Green apples are sold in bags of 6 and each bag of green apples cost 75p. Red apples are sold in bags of 10 and each bag of red apples cost 90p. Jason bought some bags of green apples and some bags of red apples. He spent £4.20. How many red apples did he buy?

(A) 12                      (B) 2                      (C) 3                      (D) 21                      (E) 30

41. Peter visited his granny's home on April 25th which was a Thursday. He decided to visit her again after 90 days. What will be the date and day after 90 days?

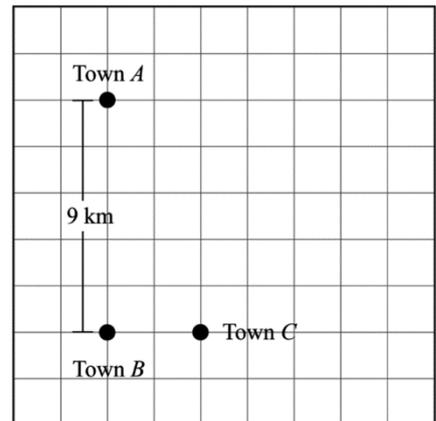
(A) July 25th and Thursday                      (B) July 24th and Wednesday  
(C) July 25th and Friday                      (D) July 23rd and Wednesday  
(E) July 26th and Friday

42. Rahul draws a net, which is pictured below.  
What 3D object will it make?



(A) Pyramid                      (B) Pentagonal prism  
(C) Pentagonal pyramid                      (D) Hexagonal prism  
(E) prism

43. The distance from Town A to Town B is 9 km. What is the distance from Town B to Town C?



(A) 2km                      (B) 1.8km                      (C) 3.6km                      (D) 4.5km                      (E) 3km





44. A school offers two sports during the summer term. Students can either play hockey or water polo, but not both.

	Hockey only	Water polo only
Boys	35	28
Girls	?	12

One - third of all the students play water polo.  
How many girls play hockey?

- (A) 40                      (B) 25                      (C) 35                      (D) 45                      (E) 30

45. Chris did a survey on the number of female toilets in four shopping centres. The results were recorded in the table shown but the key has been left off the graph?

The total number of female toilets was 132.



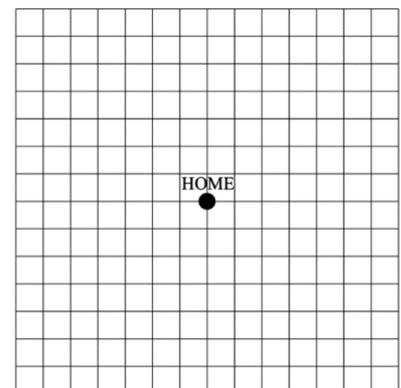
How many toilets does  represent in the graph?

- (A) 4                      (B) 2                      (C) 8                      (D) 6                      (E) 10

46. David visits his favourite coffee shop by travelling 6 km south then 4 km east. He records his trip as 6S, 4E.



Which of these trips takes David home again?



- (A) 3S, 2E, 3S, 2E                      (B) 2S, 2E, 4S, 6E  
(C) 3N, 2W, 3N, 4W                      (D) 2N, 2E, 4N, 6W  
(E) 4S, 3N, 2E, 2W





47. A Maths quiz competition has 4 contestants. In how many ways can all the contestants be arranged for a photo?
- (A) 4                      (B) 16                      (C) 40                      (D) 32                      (E) 24
- 
48. Arya walks to her school and back home every day. One morning her father dropped her in his car and it only took her 10 minutes to reach the school. If the average speed of the car was 18 km per hour. Find out the distance Arya walks every day?
- (A) 2 km                      (B) 3 km                      (C) 6 km                      (D) 4 km                      (E) 5 km
- 
49. Taran has Tennis kit which has 10 tennis balls and 2 tennis rackets. The kit weighed 1.25 kg. He knows that each of the two rackets weighs 350 grams. What is the weight of 1 tennis ball?
- (A) 550 grams                      (B) 0.4 kg                      (C) 0.055 kg                      (D) 50 grams                      (E) 40 grams
- 
50. There is a vending machine with 20 coke tins inside it. Two people bought 5 tins each from it and then it is refilled with 5 tins. After some time 3 people came and bought 6 tins in all. How many coke tins are remaining in the vending machine now?
- (A) 9                      (B) 14                      (C) 12                      (D) 10                      (E) 8



11+ Maths - GL Style (Pack 1) - Test Paper 4  
ANSWER MARKING SHEET



Name:

Date:

School Name:

Please mark boxes with a thin horizontal line like this - .

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For Parents use only

Marks Scored: ..... Time taken: .....

Comments: .....

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