International Kangaroo Open 2026

You have 60 minutes to solve the problems. For every correct answer you get the corresponding number of points. For every incorrect answer you lose one quarter of the corresponding number of points. For every skipped problem you get 0 points. To avoid possible negative final score you get initial 24 points.

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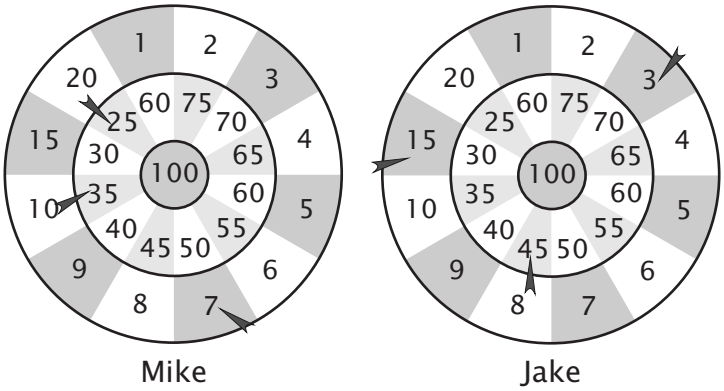
3 points problems

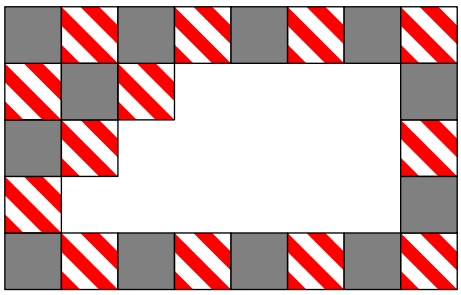
1. Mike and Jake were playing darts. Each one threw three darts (see the picture).



Who won and how many more points did he score?

(**A**) Mike, he scored 3 points more.
(**B**) Jake, he scored 4 points more.
(**C**) Mike, he scored 2 points more.
(**D**) Jake, he scored 2 points more.
(**E**) Mike, he scored 4 points more.

2. A regular rectangular pattern on a wall was created with 2 kinds of tiles: grey and striped. Some tiles have fallen off the wall (see the picture).



How many grey tiles have fallen off?

(**A**) 9 (**B**) 8 (**C**) 7 (**D**) 6 (**E**) 5

3. Grandmother made 20 gingerbread biscuits for her grandchildren. She decorated them with raisins and nuts. First she decorated 15 cakes with raisins and then 15 cakes with nuts. At least how many cakes were decorated both with raisins and nuts?

(**A**) 4 (**B**) 5 (**C**) 6 (**D**) 8 (**E**) 10

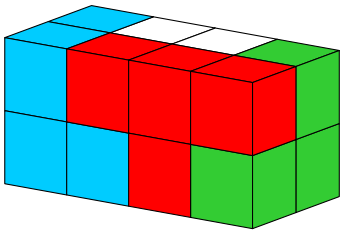
4. In a sudoku the numbers 1, 2, 3, 4 can occur only once in each column and in each row. In the mathematical sudoku below Patrick first writes in the results of the calculations. Then he completes the sudoku.

1×1		1×3	
2×2	$6 - 3$		$6 - 5$
$4 - 1$	$1 + 3$	$8 - 7$	
$9 - 7$	$2 - 1$		

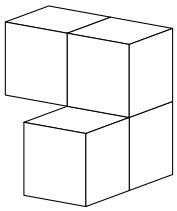
Which number will Patrick put in the grey cell?

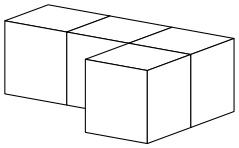
(**A**) 1 (**B**) 2 (**C**) 3 (**D**) 4 (**E**) 1 or 2

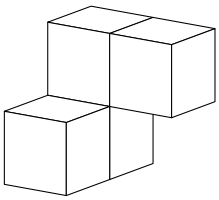
5. A cuboid is made of four pieces, as shown.

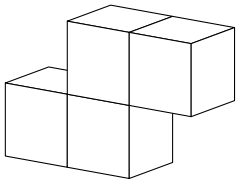


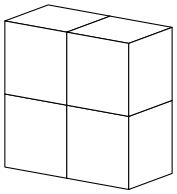
Each piece consists of four cubes and is a single colour. What is the shape of the white piece?

(**A**) 

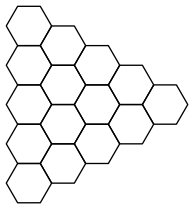
(**B**) 

(**C**) 

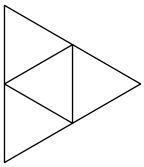
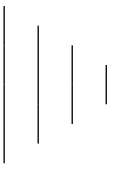
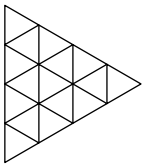
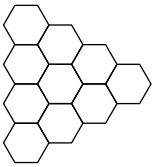
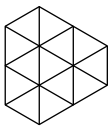
(**D**) 

(**E**) 

6. The picture shows a pattern of hexagons. We draw a new pattern by connecting all the centres of any neighbouring hexagons.



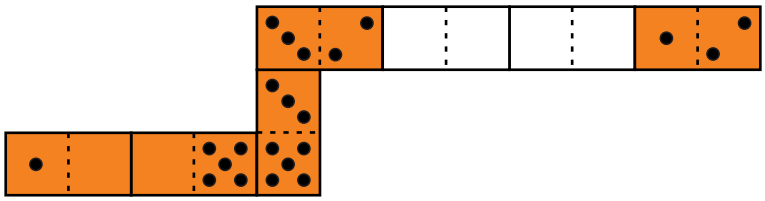
What pattern do we get?

(**A**) 
(**B**) 
(**C**) 
(**D**) 
(**E**) 

7. The positive integers have been coloured red, blue or green: 1 is red, 2 is blue, 3 is green, 4 is red, 5 is blue, 6 is green, and so on. Renate calculates the sum of a red number and a blue number. What colour can the resulting number be?

(**A**) impossible to say (**B**) red or blue (**C**) only green
(**D**) only red (**E**) only blue

8. Frank made a domino snake of seven tiles. He put the tiles next to each other so that the sides with the same number of dots were touching. Originally the snake had 33 dots on its back. However, his brother George took away two tiles from the snake (see the picture).



How many dots were in the place with the question mark?

(**A**) 2 (**B**) 3 (**C**) 4 (**D**) 5 (**E**) 6

4 points problems

9. Michael chose some positive number, multiplied it by itself, added 1, multiplied the result by 10, added 3, and multiplied the result by 2. His final answer was 2026. What number did Michael choose?

(**A**) 12 (**B**) 11 (**C**) 10 (**D**) 9 (**E**) 8

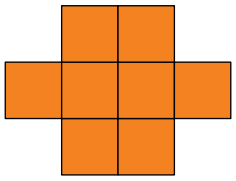
10. In a soccer game the winner gains 3 points, while the loser gains 0 points. If the game is a draw, then the two teams gain 1 point each. A team has played 38 games gaining 80 points. Find the greatest possible number of games that the team lost.

(**A**) 12 (**B**) 11 (**C**) 10 (**D**) 9 (**E**) 8

11. Vivien and Mike were given some apples and pears by their grandmother. They had 25 pieces of fruit in their basket altogether. On the way home Vivien ate 1 apple and 3 pears, and Mike ate 3 apples and 2 pears. At home they found out that they brought home the same number of pears as apples. How many pears were they given by their grandmother?

(**A**) 12 (**B**) 13 (**C**) 16 (**D**) 20 (**E**) 21

12. The perimeter of the figure below, built up of identical squares, is equal to 42 cm.



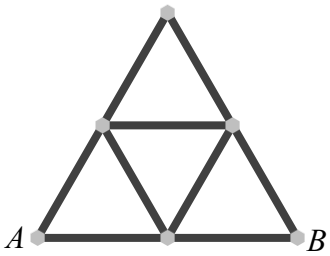
What is the area of the figure?

(**A**) 8 cm^2 (**B**) 9 cm^2 (**C**) 24 cm^2 (**D**) 72 cm^2 (**E**) 128 cm^2

13. Peter wants to cut a rectangle of size 6×7 into squares with integer sides. What is the minimal number of squares he can get?

(**A**) 4 (**B**) 5 (**C**) 7 (**D**) 9 (**E**) 42

14. Each of the nine paths in a park is 100 m long. Ann wants to go from A to B without going along any path more than once.



What is the length of the longest route she can choose?

(**A**) 900 m (**B**) 800 m (**C**) 700 m (**D**) 600 m (**E**) 400 m

15. Some cells of the square table of size 4×4 were colored red. The number of red cells in each row was indicated at the end of it, and the number of red cells in each column was indicated at the bottom of it. Then the red colour was eliminated. Which of the following tables can be the result?

(**A**)

				4
				2
				1
				1
0	3	3	2	

(**B**)

				1
				2
				1
				3
2	2	3	1	

(**C**)

				3
				3
				0
				0
1	3	1	1	

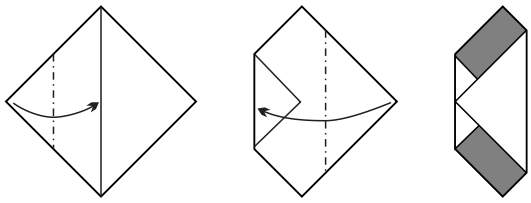
(**D**)

				2
				1
				2
				2
2	1	2	2	

(**E**)

				0
				3
				3
				1
0	3	1	3	

16. A square-shaped piece of paper has area 64 cm^2. The square is folded twice as shown in the picture.

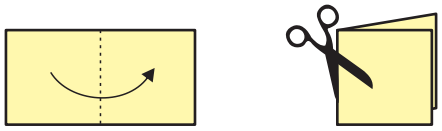


What is the sum of the areas of the shaded rectangles?

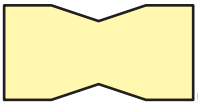
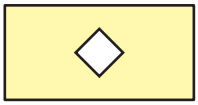
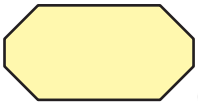
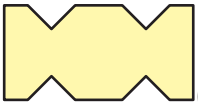
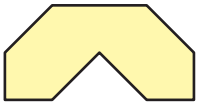
(**A**) 10 cm^2 (**B**) 14 cm^2 (**C**) 15 cm^2 (**D**) 16 cm^2 (**E**) 24 cm^2

5 points problems

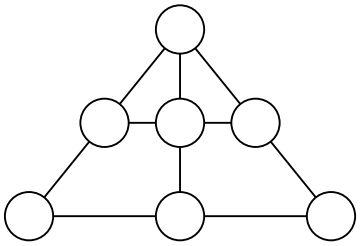
17. Werner folds a sheet of paper as shown in the figure and makes two straight cuts with a pair of scissors.



He then opens up the paper again. Which of the following shapes cannot be the result?

(**A**)  (**B**)  (**C**)  (**D**)  (**E**) 

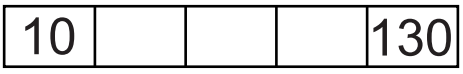
18. Place the numbers from 1 to 7 in the circles, so that the sum of the numbers on each of the indicated lines of three circles is the same.



What is the number at the top of the triangle?

(**A**) 1 (**B**) 3 (**C**) 4 (**D**) 5 (**E**) 6

19. Barbara wants to complete the diagram by inserting three numbers, one in each empty cell.



She wants the sum of the first three numbers to be 100, the sum of the three middle numbers to be 200 and the sum of the last three numbers to be 300. What number should Barbara insert in the middle cell of the diagram?

(**A**) 50 (**B**) 60 (**C**) 70 (**D**) 75 (**E**) 100

20. Four cards each have a number written on one side and a phrase written on the other. The four phrases are "divisible by 7", "prime", "odd" and "greater than 100", and the four numbers are 2, 5, 7 and 12. On each card, the number does not correspond to the phrase on the other side. What number is written on the same card as the phrase "greater than 100"?

(**A**) 2 (**B**) 5 (**C**) 7 (**D**) 12

(**E**) impossible to determine

21. At the airport there is a moving walkway 500 metres long, which moves with a speed of 4 km/hour. Ann and Bill step on the walkway at the same time. Ann walks with a speed of 6 km/hour on the walkway while Bill stands still. When Ann comes to the end of the walkway, how far is she ahead of Bill?

(**A**) 100 m (**B**) 160 m (**C**) 200 m (**D**) 250 m (**E**) 300 m

22. David wants to arrange the twelve numbers from 1 to 12 in a circle so that any two neighbouring numbers differ by either 2 or 3. Which of the following pairs of numbers have to be neighbours?

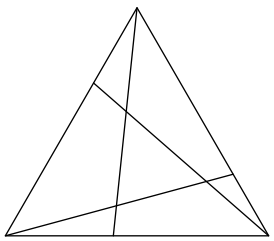
(**A**) 5 and 8 (**B**) 3 and 5 (**C**) 7 and 9 (**D**) 6 and 8 (**E**) 4 and 6

23. A rope is folded in half, then in half again, and then in half again. Finally the folded rope is cut through, forming several strands. The lengths of two of the strands are 4 m and 9 m. Which of the following could not have been the length of the whole rope?

(**A**) 52 m (**B**) 68 m (**C**) 72 m (**D**) 88 m

(**E**) all the previous are possible

24. A triangle is divided into four triangles and three quadrilaterals by three straight line segments.



The sum of the perimeters of the three quadrilaterals is equal to 25 cm. The sum of the perimeters of the four triangles is equal to 20 cm. The perimeter of the whole triangle is equal to 19 cm. What is the sum of the lengths of the three straight line segments?

(**A**) 11 (**B**) 12 (**C**) 13 (**D**) 15 (**E**) 16