Canguro Matemático Costarricense



Benjamin Test Fifth grade

Name of the student:_

Name of the institution:_____

Kangourou Sans Frontières Costa Rica 2025

3 puntos

1. On a normal dice, the total number of spots on two opposite faces is always 7. Which one of the dice shown could be a normal dice?



2. Alex stepped on some tracks on the ground.



What is beneath her shoe?



3. Nico and his little sister pay with shells and marbles in their playshop. Each shell has a value of 6 and each marble has a value of 1. Which of the following has a total value of 16?



Anna Bonnie Caspar

4. Anna, Bonnie and Caspar have some kangaroo cookies on their plates, as shown.

They then share the remaining 15 cookies on the tray so that everyone now has the same number of cookies on their plates.



How many more cookies does Anna get?

(A) 4 (B) 5 (C) 6 (D) 7 (E) 8

5. In the morning, 5 friends had identical fully-charged mobile phones. By the evening, Bob had spoken on the phone as much as Ann and Cristina together. Bob ran out of power. David had not used his phone at all.



Which phone belonged to Edward?

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

6. Container A holds 10 litres of water. All five plugs at the bottom of container A are taken out at the same time and the water flows out.



What volume of water flows into container B?

 $(\mathbf{A}) \ 3 \ \text{litres} \qquad (\mathbf{B}) \ 4 \ \text{litres} \qquad (\mathbf{C}) \ 5 \ \text{litres}$

 (\mathbf{D}) 6 litres

 (\mathbf{E}) 8 litres



Which of the pieces shown would complete the pattern?



8. Mike has a leaflet with numbers and holes in the flaps on both sides, as shown in the picture. He folds the right flap along the dotted line and sees the numbers 2, 3, 5 and 6 through the holes. Then he folds the left flap along the other dotted line.

	4	9	2	\Box	
	3	5	7		\Box
	8	1	6		

What is the sum of the numbers he sees now?

(A) 10	(B) 12	(C) 14	$(\mathbf{D}) 9$	$(\mathbf{E}) 8$
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9. Tatiana rotates a piece of paper divided into six equal parts. When the paper is rotated, it is turned clockwise one part. The original sheet of paper and the result of one rotation are shown in the diagram.



What does the sheet of paper look like after a total of eight rotations?



10. The menu of my favourite burger restaurant is written on a board. However the rain has washed away some of the numbers. The burgers are ordered by price.



Which of the following is the price of one of my burgers?

$(\mathbf{A}) \stackrel{410}{=} (\mathbf{D}) \stackrel{500}{=} (\mathbf{C}) \stackrel{500}{=} (\mathbf{D}) \stackrel{650}{=} (\mathbf{D})$	(A) 410	$({f B}) 550$	(C) 560	(D) 630	$(\mathbf{E}) 6$
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4 puntos

11. Emilio put slices of tomato, black olives, chillis, mushrooms and onion rings on top of a pizza, but not necessarily in that order. He only put one ingredient at a time. His finished pizza is shown in the picture.



Which was the third topping he put on the pizza?

(A) tomato slices
(B) black olives ●
(C) chillis
(D) mushrooms
(E) onion rings

12. Bob makes a square from 4 rectangular pieces. 3 of the pieces he uses are shown.



Which of the following is the fourth piece he uses?



13. 6 ladybirds have 1, 2, 3, 4, 5 or 6 spots each. Marta took 4 photos of them in groups of 3. Each ladybird appeared the same number of times in the photos. 3 of the photos, along with the outline of the fourth photo, are shown here.



How many spots do the three ladybirds in Marta's fourth photo have in total?

(A) 9 (B) 10 (C) 11 (D) 12 (E) 23

14. Nela folds a paper square in half and then in half again, as shown.



Next she cuts pieces out of the folded paper. After unfolding she sees a paper snowflake.



How did she cut the folded piece of paper?



15. Fabiola has built a pyramid using black and grey cubes. She arranges each cube so each face does not touch a face of another cube with the same colour. One of the black cubes is shown in the figure.



What will Fabiola's pyramid look like from above?



16. Identical balls have been placed in 5 identical test tubes, as shown. Then, water is added to each of these test tubes.



The water levels in test tubes 1, 2, and 3 are the same.

The water levels in test tubes 4 and 5 are also the same and twice as high as in the first 3 test tubes. Then, all the balls are removed.

Which test tube has the least water?

(\mathbf{A}) Test tube 1	(\mathbf{B}) Test tube 2	(\mathbf{C}) Test tube 3
(\mathbf{D}) Test tube 4	(\mathbf{E}) Test tube 5	

17. A pair of scales is used to weigh 3 different objects, and the results are shown below.



Each type of object has a different mass. The masses can be 1, 2, 3, 4, or 5 Kg. What is the mass of one ?

$(\mathbf{A}) 1 \mathrm{Kg} \qquad (\mathbf{I})$	B) 2 Kg	(\mathbf{C}) 3 Kg	$(\mathbf{D}) 4 \mathrm{Kg}$	(\mathbf{E}) 5 Kg
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18. A bookshelf with three shelves has 17 books on the top shelf, 15 books on the middle shelf, and 7 books on the bottom shelf. Monika wants all shelves to have the same number of books on. She also wants to move as few books as possible.



How many books should she move from the middle shelf to the bottom shelf?

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

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19. Three turtles participate in a 10-kilometre race. Each of them moves at a constant speed. When the first turtle finishes, the second turtle has covered $\frac{1}{4}$ of the distance, and the third turtle has covered $\frac{1}{5}$ of the distance. How far from the finish line will the third turtle be when the second turtle finishes?

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

20. Hasan wants to write a 0 or a 1 in each cell of the diagram so that the sum of the numbers in each row, column and diagonal is 3. He has already written a 0 in one of the cells.



When he finishes, what will the sum of the numbers in the cells shown with a question mark be?

(A) 1 (B) 2 (C) 3 (D) 4

 $({\bf E})$ It cannot be calculated

5 puntos

21. The picture shows five wheels of fortune. Each wheel is divided into a different number of identical parts. You will win a prize when the wheel is spun and then stops with the triangle above the wheel pointing to a part that is shaded.



Which wheel gives you the best chance of winning?



22.



Which shape, or any rotation of the shape, **cannot** be placed onto the white parts of the large square?



23. Each of the cards shown below have two 3-digit numbers written on them, but some of the digits cannot be seen as they are covered in ink. On one of the cards, the sum of the digits of both numbers is the same. On which card are those two numbers?



24. The shape in the diagram is made of identical squares. Point B is halfway between points A and C. Also, point D is halfway between points C and E. Maria wants to divide the shape into two parts of equal area.



Which of the points A, B, C, D or E should she connect with a straight line to point S to do this?

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

25. Mary and Paul each wrote down three 3-digit numbers using the digits 1 to 9 exactly once. Then they ordered their numbers as smallest, middle and largest:



Mary wrote down the largest possible value the middle number could have. Paul wrote down the smallest possible value the middle number could have.

What is the difference between their two middle numbers?

(A) 642 (B) 684 (C) 864 (D) 888 (D) 888

 (\mathbf{E}) none of the previous

26. A witch had 10 apples, 9 bananas and 6 pears. One day she performed some magic and turned each of her pieces of fruit into one of the other two types. For example, she changed each apple into either a banana or a pear. She now has 15 apples, 7 bananas and 3 pears.



How many of the apples did she change into a banana?

(A) 3 (B) 4 (C) 5 (D) 6 (E) 7

27. Joanna divides the figure shown into five equally shaped parts, each constisting of three squares.

	А		
В	☆	\mathbf{C}	
D		Е	

The square containing which letter is in the same part as the square marked with a star?

 $(\mathbf{A}) \mathbf{A} \qquad (\mathbf{B}) \mathbf{B} \qquad (\mathbf{C}) \mathbf{C} \qquad (\mathbf{D}) \mathbf{D} \qquad (\mathbf{E}) \mathbf{E}$

28. Facundo never tells the truth on tuesdays, thursdays and saturdays. He always tells the truth on the other four days. One day Mateo had the following conversation with Facundo:

- Mateo: "What day is today?"
- Facundo: "Saturday"
- Mateo: "What day will be tomorrow?"
- Facundo: "Wednesday"

On which day did this conversation take place?

$(\mathbf{A}$.) Monday (B) Tuesdav (\mathbf{C}) Wednesdav (D) Thursday	\mathbf{E}) Fridav
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29. Julio wants to construct this cross shape shown in the picture using pieces shaped like the ones below the cross. He has many copies of each piece and knows he can rotate them if needed. The pieces must not overlap.



What is the smallest number of pieces he could use to construct the shape?



30. Tino combines the three building blocks shown on the right.



Which of the following constructions could he make?



Name:_____

Institution:____

01.	А	В	С	D	Е
02.	А	В	С	D	Е
03.	А	В	С	D	Е
04.	А	В	С	D	Е
05.	А	В	С	D	Е
06.	А	В	С	D	Е
07.	А	В	С	D	Е
08.	А	В	С	D	Е
09.	А	В	С	D	Е
10.	А	В	С	D	Е
11.	А	В	С	D	Е
12.	А	В	С	D	Е
13.	А	В	С	D	Е
14.	А	В	С	D	Е
15.	А	В	С	D	Е

16.	А	В	С	D	Е
17.	А	В	С	D	Е
18.	А	В	С	D	Е
19.	А	В	С	D	Е
20.	А	В	С	D	Е
21.	А	В	С	D	Е
22.	А	В	С	D	Е
23.	А	В	С	D	Е
24.	А	В	С	D	Е
25.	А	В	С	D	Е
26.	А	В	С	D	Е
27.	А	В	С	D	Е
28.	А	В	С	D	Е
29.	А	В	С	D	Е
30.	А	В	С	D	Е

