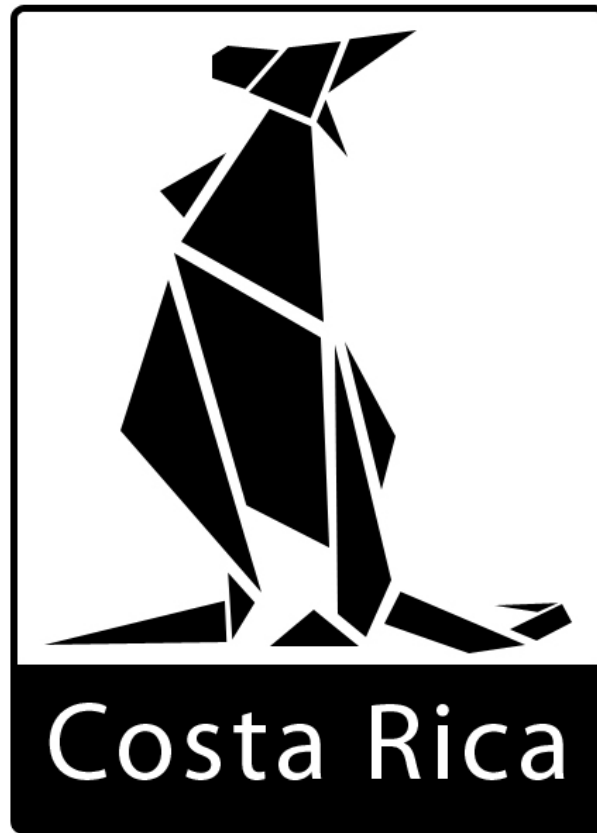


Kangourou Sans Frontières



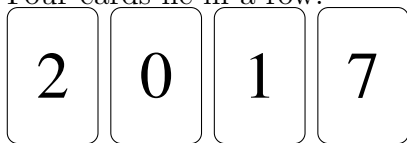
Benjamin Test
Fifth Grade

Name: _____

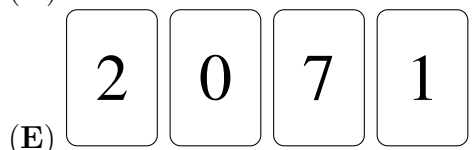
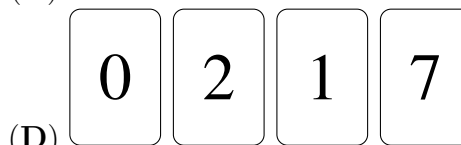
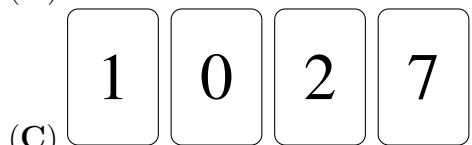
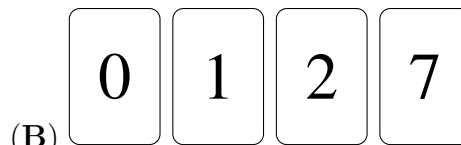
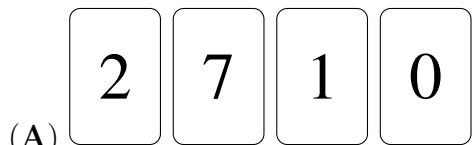
Costa Rica 2017

3 points

1. Four cards lie in a row.



Which row of cards can you not obtain if you can only swap two cards?

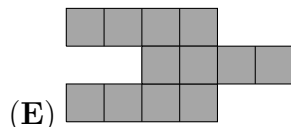
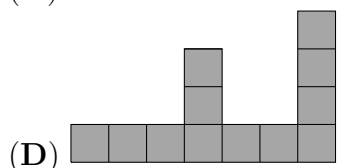
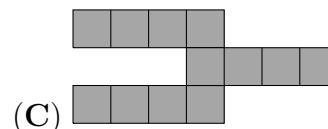
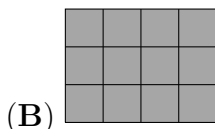
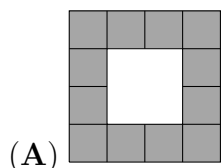


2. A fly has 6 legs, a spider has 8. Together, 3 flies and 2 spiders have as many legs as 9 chickens and ...

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

3. Alice has 4 pieces of this shape:

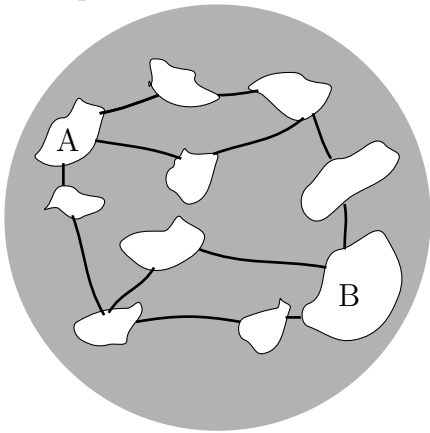
Which picture can she not make from these 4 pieces?



4. Kalle knows that $1111 \times 1111 = 1234321$. How much is 1111×2222 ?

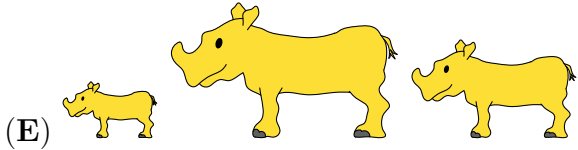
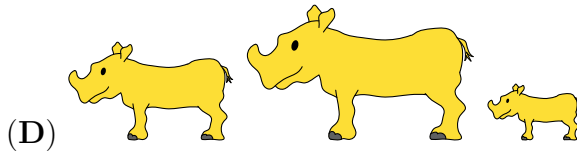
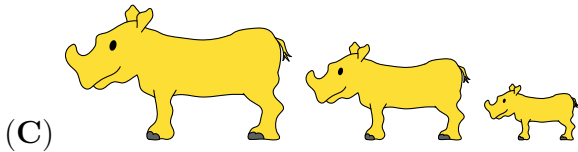
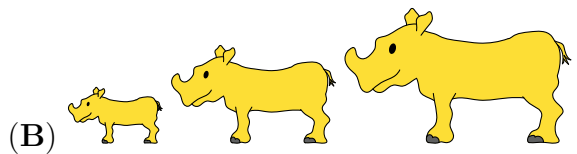
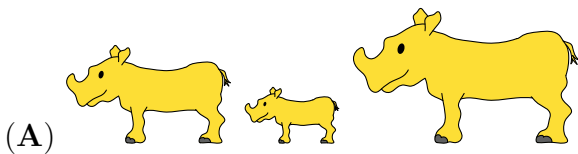
- (A) 3456543 (B) 2345432 (C) 2234322 (D) 2468642 (E) 4321234

5. On a planet there are 10 islands and 12 bridges. All bridges are open for traffic right now.



What is the smallest number of bridges that must be closed in order to stop the traffic between A and B.

- (A) 1 (B) 2 (C) 3 (D) 4 (E) 5
6. Jane, Kate and Lynn go for a walk. Jane walks up front, Kate walks in the middle and Lynn walks behind. Jane weighs 500 kg more than Kate. Kate weighs 1000 kg less than Lynn. Which of the following pictures shows Jane, Kate and Lynn in the right order?



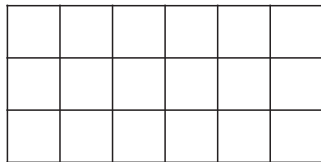
7. A special dice has a number on each face. The sums of the numbers on opposite faces are all equal. Five of the numbers are 5, 6, 9, 11 and 14.

What number is on the sixth face?

- (A) 4 (B) 7 (C) 8 (D) 13 (E) 15
8. While Peter is solving 2 problems on the "Kangaroo" contest, Nick manages to solve three problems. Totally the boys solved 30 problems. How many problems did Nick solve more than Peter?

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

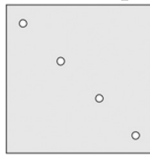
9. Martin wants to colour the squares of the rectangle so that $\frac{1}{3}$ of all squares are blue and half of all squares are yellow. The rest of the squares are to be coloured red.



How many squares will he colour red?

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

10. Bob folded a piece of paper, used a hole puncher and punched exactly one whole in the paper.

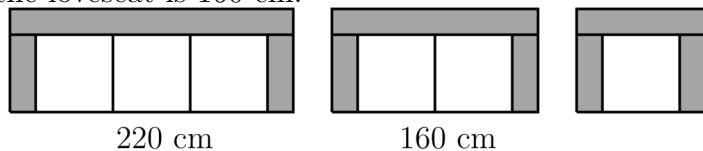


The unfolded the paper can be seen in the picture: Which of the following pictures shows the lines along which Bob folded the piece of paper?

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

4 points

11. The Modern Furniture store is selling sofas, loveseats, and chairs made from identical modular pieces as shown in the picture. Including the armrests, the width of the sofa is 220 cm and the width of the loveseat is 160 cm.



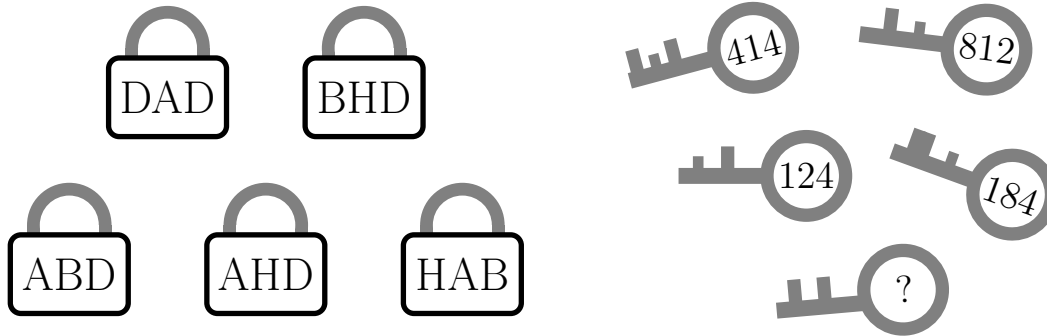
What is the width of the chair?

- (A) 60 cm (B) 80 cm (C) 90 cm (D) 100 cm (E) 120 cm

12. Tom writes all the numbers from 1 to 20 in a row and obtains the 31-digit number 1234567891011121314151617181920. Then he deletes 24 of the 31 digits such that the remaining number is as large as possible. Which number does he get?

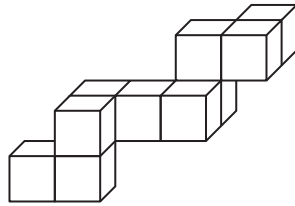
- (A) 9671819 (B) 9567892 (C) 9781920 (D) 9912345 (E) 9818192

13. The 5 keys fit the 5 padlocks. The numbers on the keys refer to the letters on the padlocks.



What is written on the last key?

- (A) 382 (B) 282 (C) 284 (D) 823 (E) 824
14. Morten wants to put the construction into a regular box. Which of the following boxes is the

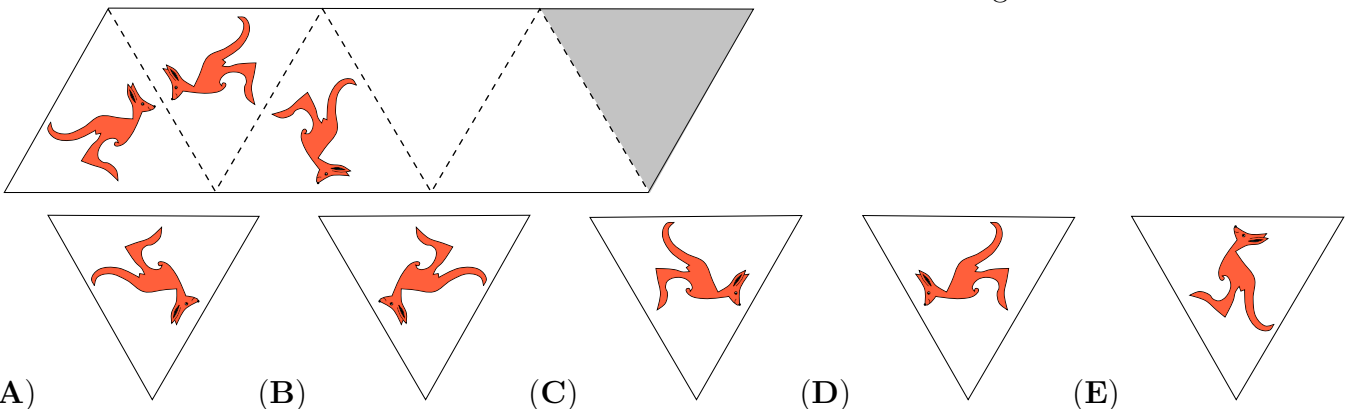


smallest he can use?

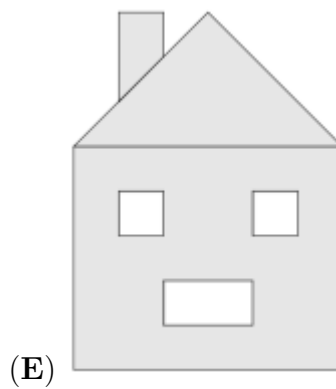
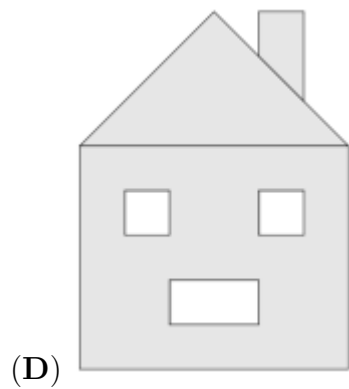
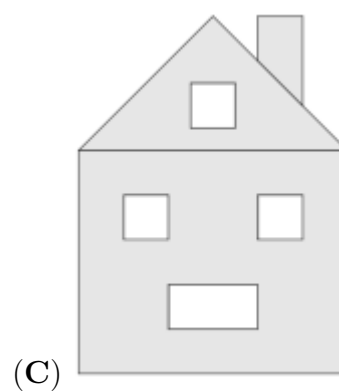
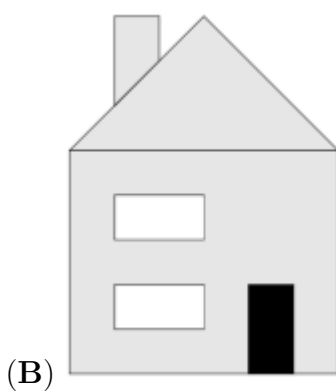
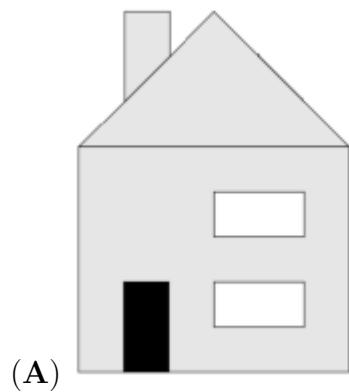
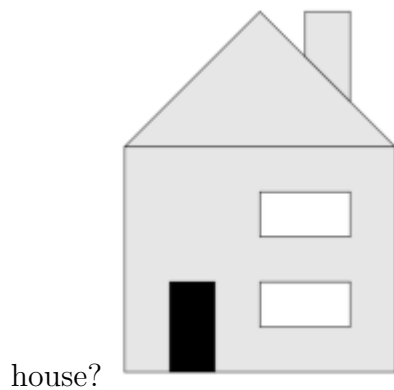
- (A) $3 \times 3 \times 4$ (B) $3 \times 5 \times 5$ (C) $3 \times 4 \times 5$ (D) $4 \times 4 \times 4$ (E) $4 \times 4 \times 5$
15. Peter went hiking in the mountains for 5 days. He started on Monday and his last trip was on Friday. Each day he walked 2 km more than the day before. When the tour was over, his total distance was 70 km.

What distance did Peter walk on Thursday?

- (A) 12 km (B) 13 km (C) 14 km (D) 15 km (E) 16 km
16. There is a picture of a kangaroo in the first triangle. Dotted lines act as mirrors. The first 2 reflections are shown. What does the reflection look like in the shaded triangle?



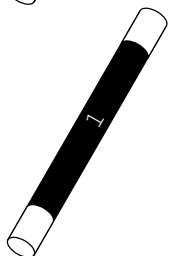
17. The picture shows the view Ann sees when she looks at the front of her house. The rear of her house has three windows and no door. What view does Ann see when she looks at the rear of her house?



18. Boris has an amount of money and 3 magic wands that he can use only once.



This wand adds 1 EUR.

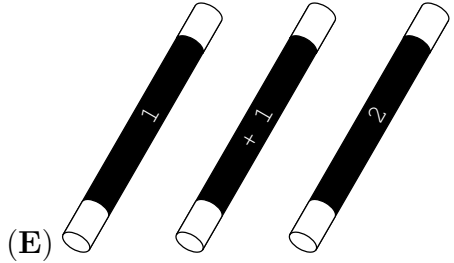
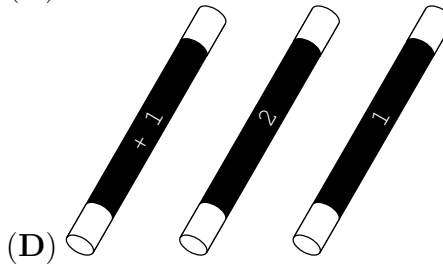
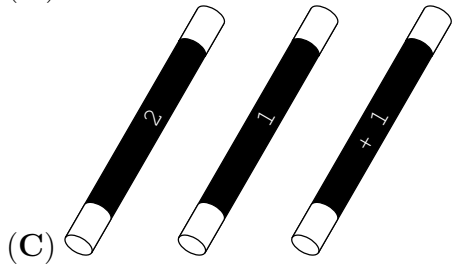
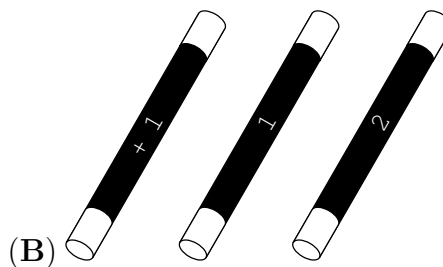
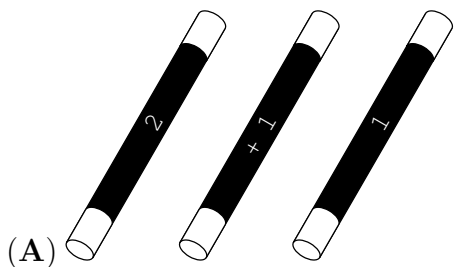


This wand subtracts 1 EUR.



This wand doubles the amount.

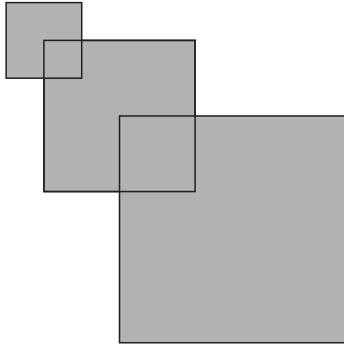
In which order must he use these wands to obtain the largest amount of money?



19. Four players scored goals in a handball match. All of them scored a different number of goals. Among the four Mike was the one who scored the least number of goals. The other three have scored 20 goals in total. What is the largest number of goals Mike could have scored?

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

20. Rafael has three squares. The first one has side length 2 cm. The second one has side length 4 cm and a vertex is placed in the centre of the first square. The last one has side length 6 cm and a vertex is placed in the centre of the second square, as shown in the picture. What is the area of the figure?



- (A) 32 cm² (B) 51 cm² (C) 27 cm² (D) 16 cm² (E) 6 cm²

5 points

21. David wants to cook 5 dishes on a stove with only 2 burners. The times needed to cook the 5 dishes are 40 min, 15 min, 35 min, 10 min and 45 min . What is the shortest time in which he can do it? (He may only remove a dish from the stove when it is cooked.)

- (A) 60 min (B) 70 min (C) 75 min (D) 80 min (E) 85 min

22. When we add the numbers in each row and along the columns we get the results shown.

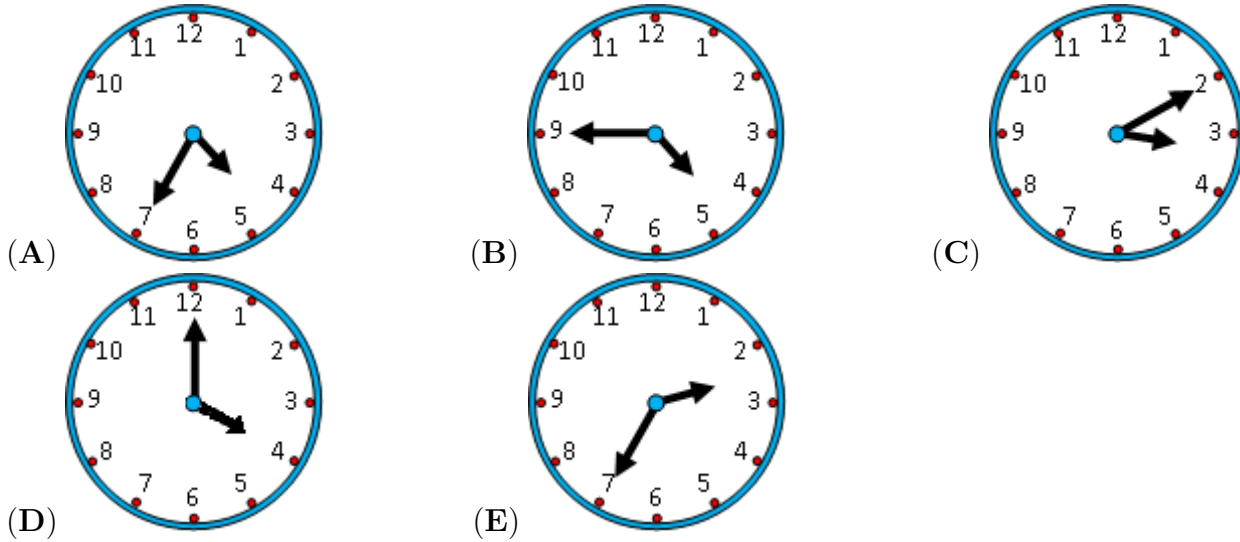
$$\begin{array}{|c|c|} \hline a & b \\ \hline c & d \\ \hline \end{array} \begin{array}{l} \rightarrow 2 \\ \rightarrow 3 \end{array}$$

$$\begin{array}{c} \downarrow \downarrow \\ 1 \quad 4 \end{array}$$

Which statement is true?

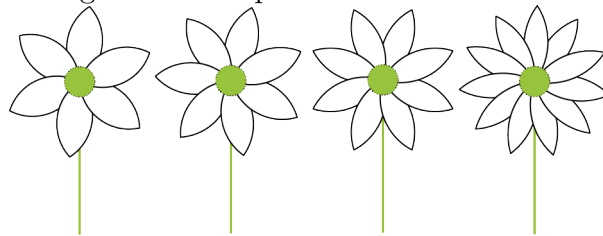
- (A) a is equal to d (B) b is equal to c (C) a is greater than d
 (D) a is less than d (E) c is greater than b

23. George starts training at five in the afternoon. The journey from his house to the bus stop takes 5 minutes. The bus journey takes 15 minutes. It takes him 5 minutes to go from the bus stop to the field. The bus runs every 10 minutes from six in the morning. At what time at the latest does he have to leave his house to arrive at the field on time?



24. Kate has 4 flowers, one with 6 petals, one with 7 petals, one with 8 petals and one with 11 petals. Kate tears off one petal from three flowers. She does this several times, choosing any three flowers each time.

She stops when she can no longer tear one petal from three flowers. What is the smallest number



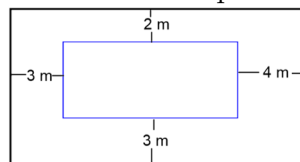
of petals which can remain?

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

25. Which of the following equalities is correct?

- (A) $\frac{4}{1} = 1.4$ (B) $\frac{5}{2} = 2.5$ (C) $\frac{6}{3} = 3.6$ (D) $\frac{7}{4} = 4.7$ (E) $\frac{8}{5} = 5.8$

26. The diagram shows two rectangles whose sides are parallel. What is the difference in the lengths



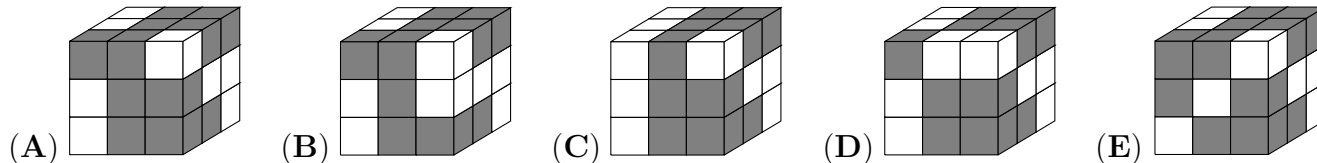
of the perimeters of the two rectangles?

- (A) 12 m (B) 16 m (C) 20 m (D) 21 m (E) 24 m

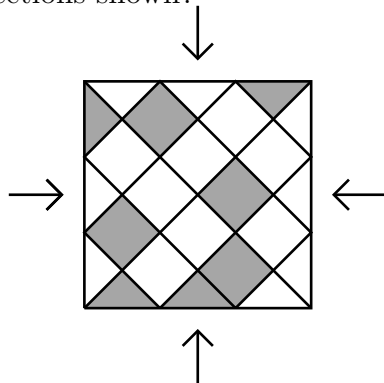
27. A bar consists of 2 grey cubes and 1 white cube glued together as shown in the figure.



Which figure can be built from 9 such bars?



28. The square floor in the picture is covered by triangular and square tiles in grey and white. At least how many tiles must be swapped such that the pattern looks the same from each of the four directions shown?

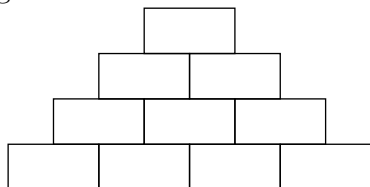


- (A) Three triangles, one square
- (B) One triangle, three squares
- (C) One triangle, one square
- (D) Three triangles, three squares
- (E) Three triangles, two squares

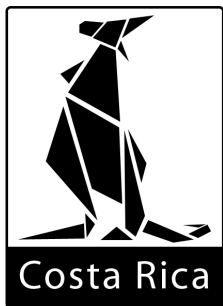
29. Ala likes even numbers, Beata likes numbers divisible by 3, Celina likes numbers divisible by 5. Each of these three girls went separately to a basket containing 8 balls with numbers written on them, and took all the balls with numbers she likes. It turned out that Ala collected balls with numbers 32 and 52, Beata – 24, 33 and 45, Celina – 20, 25 and 35. In what order did the girls approach the basket?

- (A) Ala, Celina, Beata
- (B) Celina, Beata, Ala
- (C) Beata, Ala, Celina
- (D) Beata, Celina, Ala
- (E) Celina, Ala, Beata

30. John wants to write a natural number in each box in the diagram such that each number above the bottom row is the sum of the two numbers in the boxes immediately underneath. What is the largest number of odd numbers that John can write?



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



Hoja de Respuestas

Nombre: _____

Institución: _____

Nivel: _____

01. A B C D E

02. A B C D E

03. A B C D E

04. A B C D E

05. A B C D E

06. A B C D E

07. A B C D E

08. A B C D E

09. A B C D E

10. A B C D E

11. A B C D E

12. A B C D E

13. A B C D E

14. A B C D E

15. A B C D E

16. A B C D E

17. A B C D E

18. A B C D E

19. A B C D E

20. A B C D E

21. A B C D E

22. A B C D E

23. A B C D E

24. A B C D E

25. A B C D E

26. A B C D E

27. A B C D E

28. A B C D E

29. A B C D E

30. A B C D E