Math Kangaroo USA 2025

International Competition in Mathematics
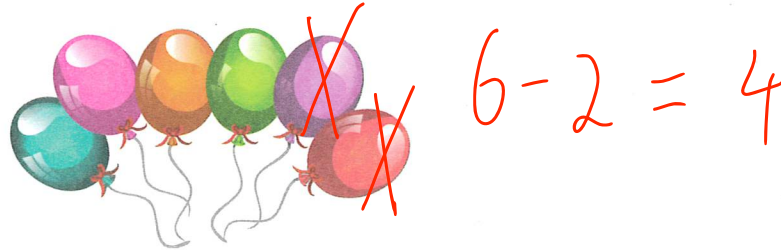Thursday, March 20, 2025

Grades 1 and 2

Kangourou Sans Frontières
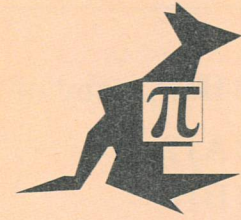
Math Kangaroo USA

You have 75 minutes to complete the test. ★ Calculators are not allowed. ★ Mark your answers on the answer sheet.

Problems 3 points each

**1.** Pablo has 6 balloons. He gives away 2 of the balloons. How many balloons will Pablo then have?

[handwritten: 6 − 2 = 4]

(**A**) 2   (**B**) 3   (**C**) 4   (**D**) 5   (**E**) 6
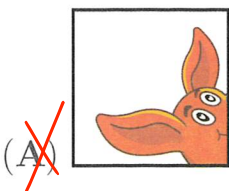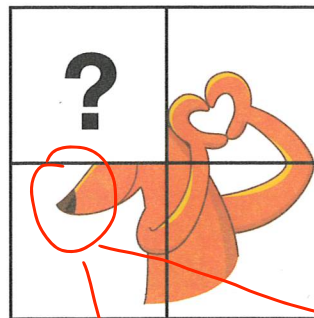
[handwritten: C circled]

2. Which of the puzzle pieces completes the picture?

[handwritten notes: ① The piece shouldn't have a nose, so eliminate C and D. ② The head should be in the bottom right corner, so eliminate B. ③ The nose should face down, so eliminate A.]

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

[handwritten: A, B, C, D crossed out; E circled]
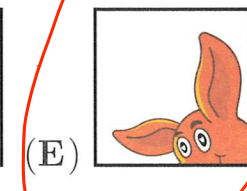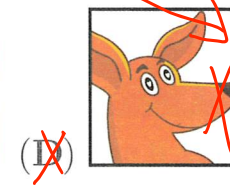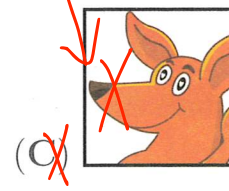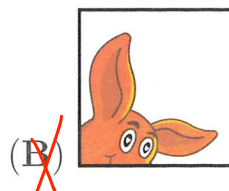
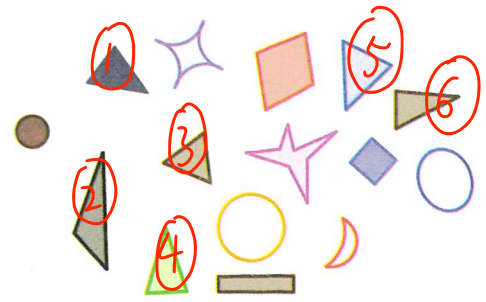**3.** How many of the shapes shown are triangles?

(A) 2

(B) 3

(C) 4

(D) 5

(E) 6

4. Five baby kangaroos are hopping to their mothers along the paths shown below. Which path is the shortest?

Since the total length of the horizontal path is the same in each picture, the shortest overall path will be the one with the shortest vertical segment.

(A) 3 vertical segments　(B) 5 vertical segments　(C) 8 vertical segments　(D) 4 vertical segments　(E) 8 vertical segments
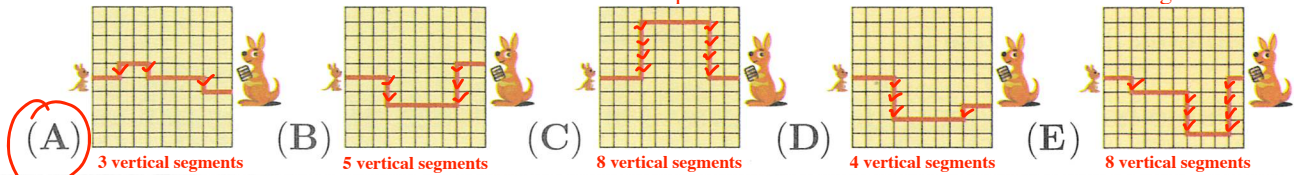
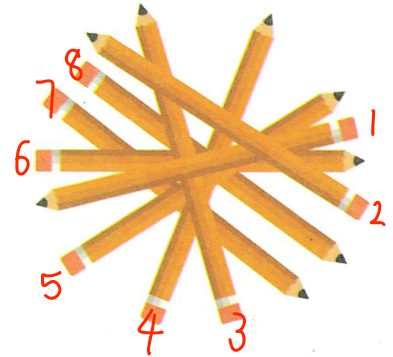**5.** How many pencils are shown in the picture?

(A) 7

(B) 8

(C) 9

(D) 14

(E) 16

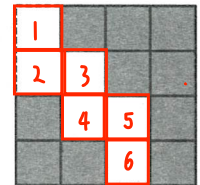**6.** A large square is formed from 16 small squares of the same size. Then some of the small squares are removed. How many small squares are missing?
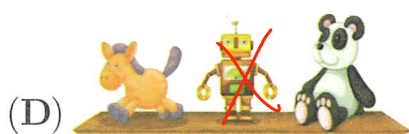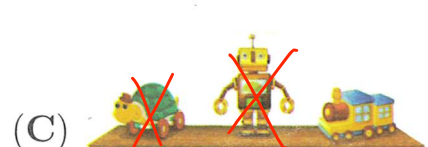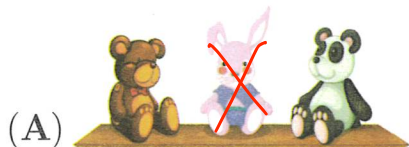
(A) 4　　　(B) 5　　　(C) 6　　　(D) 7　　　(E) 8

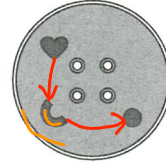**7.** On Michael's toy shelf, there are no turtles, no rabbits, and no robots. Which of these shelves could be Michael's shelf?
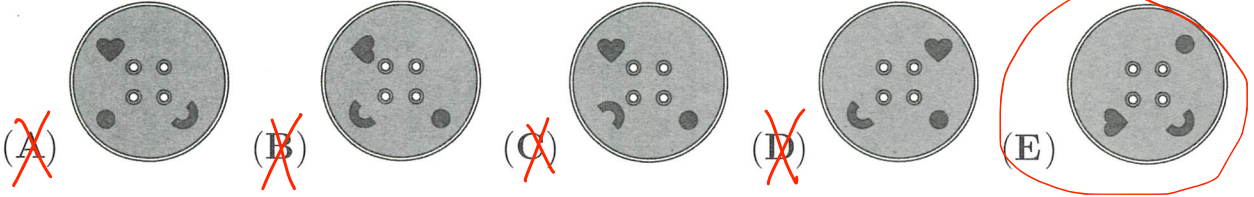
(A)　　　(B)　　　(C)

(D)　　　(E)

The heart, rainbow, and circle are arranged in a specific order — eliminate A and D.

The point of the heart should face the rainbow — eliminate B.

The curve of the rainbow should match the curve of the large circle — eliminate C.

8. The buttons on Carla's sweater all look like this. Which one of these buttons could be from her sweater?

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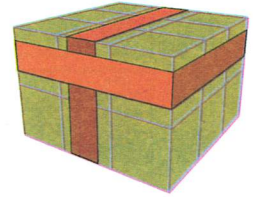

Problems 4 points each

Top layer: The rubber band touches all the cubes.
Bottom layer: The rubber band touches only the 3 middle cubes.
That means, at the bottom, there are 3 cubes on the left and 3 cubes on the right that are not touched.
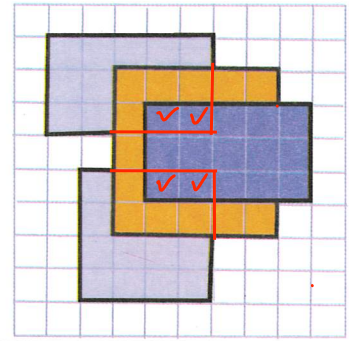3 + 3 = 6

9. Two rubber bands are placed around a stack of 18 cubes. How many cubes are not touching a rubber band?

(A) 6   (B) 8   (C) 9   (D) 10   (E) 12

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10. A floor is covered in square tiles. There are 4 rectangular mats on the floor. In total, how many tiles have 3 mats on top of them?

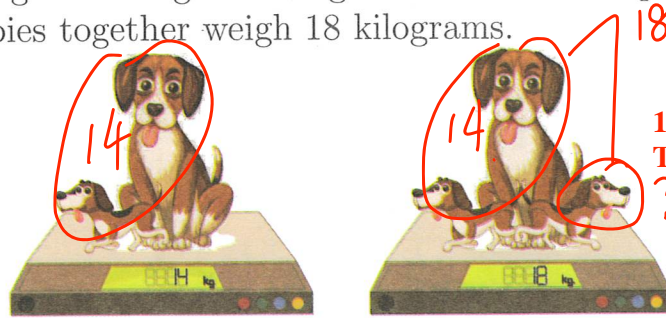(A) 0   (B) 1   (C) 2   (D) 3   (E) 4

The key from top to bottom should be a square, triangle, and circle.

11. Which of the keys fits the lock shown in the picture?

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

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12. A dog has 2 puppies that weigh the same. The first picture shows that the dog and 1 puppy together weigh 14 kilograms. The second picture shows that the dog and both puppies together weigh 18 kilograms.

How much does the dog weigh?

(A) 9 kilograms   (B) 10 kilograms   (C) 11 kilograms
(D) 12 kilograms   (E) 13 kilograms

13. There were 12 pieces of fruit on the table. Vera removed 2 pears, 4 apples, and half of the oranges. Now there are only oranges left on the table. How many oranges are left?
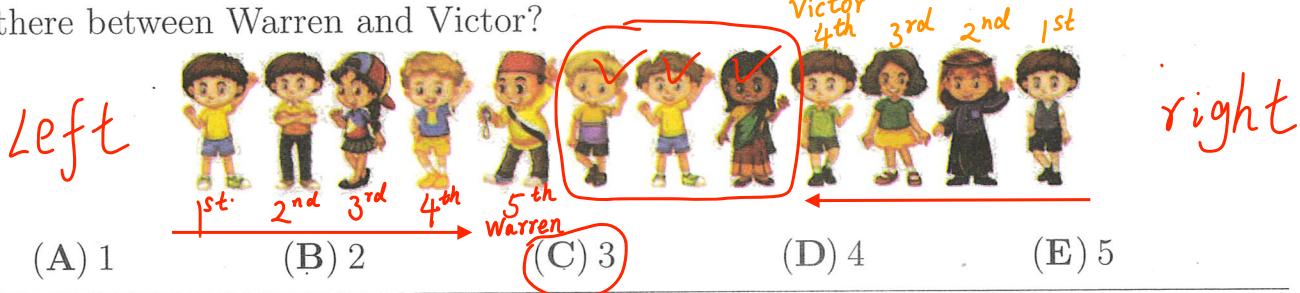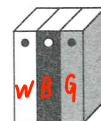
(A) 1   (B) 2   (C) 3   (D) 4   (E) 6

14. There are 12 students in a line. Counting from the left, Warren is fifth in the line. Counting from the right, Victor is fourth in the line. How many students are there between Warren and Victor?
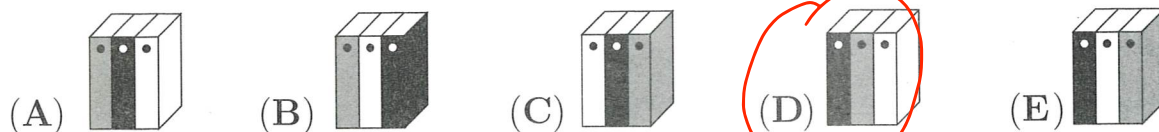
(A) 1   (B) 2   (C) 3   (D) 4   (E) 5

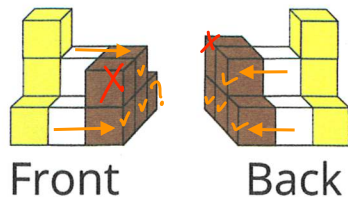**15.** There were three books on Mary's shelf, as shown in the picture.

- First, Mary swapped the white book and the gray book.

- Then, Mary swapped the gray book and the black book.
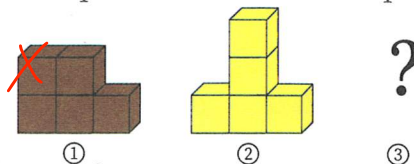
How are her books arranged now?

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

16. The pictures below show the front and back of an object built from colored cubes.
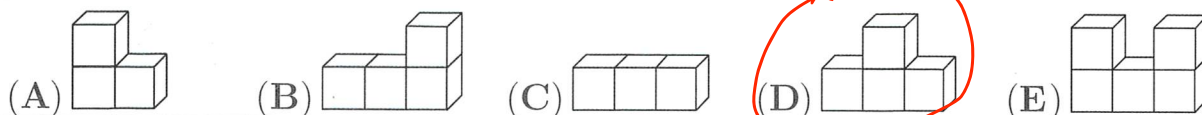
Front   Back

When comparing the white and brown cubes, only one piece is unique to the brown set — the rest are the same as the white cubes.

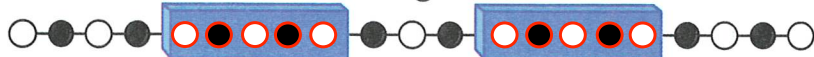The object is broken into three pieces. Two of the pieces are shown below.

① ② ? ③

Which of these is the third piece?

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

Problems 5 points each

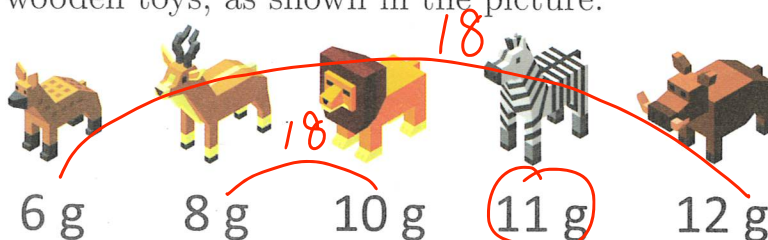**17.** The beads on a string alternate between black and white.

Each block hides five beads. In total, how many white beads are hidden?

(A) 5   (B) 6   (C) 7   (D) 9   (E) 10

18. Ann buys 3 chocolate bars. Tom buys 5 chocolate bars. Tom pays 8 euros more than Ann. What is the cost of 1 chocolate bar?

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

19. Charles has 5 wooden toys, as shown in the picture.

6 g   8 g   10 g   11 g   12 g

He picks 2 pairs of toys so that the pairs weigh the same. Which toy was not picked?

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

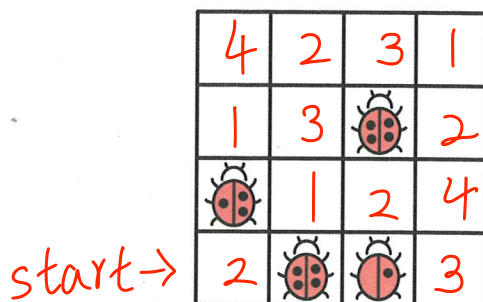**20.** 3 years ago, the sum of Ana's age and Ben's age was 6 years. Ana is currently 7 years old. How old is Ben now?

(A) 1 year   (B) 5 years   (C) 6 years   (D) 7 years   (E) 11 years
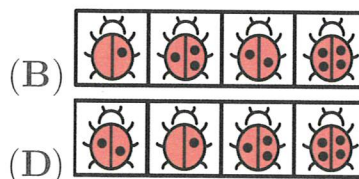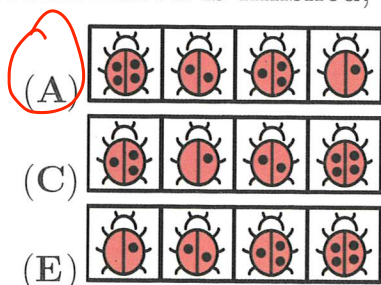
21. Each ladybug sticker has 1, 2, 3, or 4 dots. Aaron wants to fill the grid with stickers so that in each row and in each column there are ladybugs with different numbers of dots.

4	2	3	1
1	3	🐞	2
🐞	1	2	4
2	🐞	🐞	3

start →

When Aaron is finished, what will the top row of the grid look like?

(A) 🐞🐞🐞🐞

(B) 🐞🐞🐞🐞

(C) 🐞🐞🐞🐞

(D) 🐞🐞🐞🐞

(E) 🐞🐞🐞🐞

22. There are 13 cubes stacked in the corner of a room. Each is colored gray or white. Directly below each gray cube is a white cube, and directly below each white cube is a gray cube. How many white cubes are in the stack?

Mark the number of white cubes in each column. Then, the total number of white cubes is 2 + 1 + 1 + 1 + 1 + 1 = 7.

(A) 4   (B) 6   (C) 7   (D) 8   (E) 9
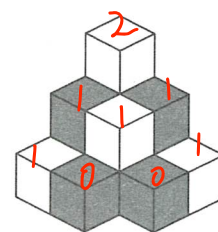
23. Aria decides to paint each square in the shape shown so that squares painted the same color do not touch. She paints 4 squares red, 3 squares blue, 2 squares green, and 1 square yellow. Which color did she paint the square marked with the X?

Red
R
R   R

(A) red   (B) blue   (C) green   (D) yellow

(E) It is impossible to know.
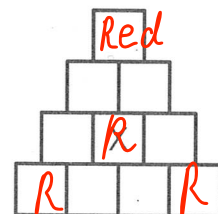
24. Each time a coin is put in the machine, a ball falls randomly from the bottom row. What is the smallest number of coins Sophia must have to be sure that she will get a white ball?

(A) 6   (B) 10   (C) 11   (D) 12   (E) 15

This is worst-case scenario problem. To ensure getting a white ball, consider the worst-case scenario.
Remove all balls of other colors under the white ball.
Then, when you draw again, it will definitely be a white ball.

Caclulate the number of balls of other colors under the white ball: 3+1+2+4=10;
Drawing another ball now will definitely be a white ball. 10+1=11.