



The Ivy
LEAGUE

Education Center

Math Kangaroo 2016

March 17, 2016

Levels 1 and 2

Kangourou Sans Frontières

Mathematics Promotion Society

Math Kangaroo in USA

Math Kangaroo 2016 in USA

International Competition in Mathematics

Thursday, March 17, 2016

Levels 1 and 2

This test consists of 24 questions on 6 pages.

You have 75 minutes to complete it.

Calculators are not allowed!

Please enter your answers on the answer form provided.

Please put your name and ID number on the line below.

3 point problems

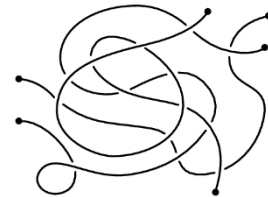
1. Which letter on the board is not in the word "KOALA"?

- (A) R (B) L (C) K (D) N (E) O



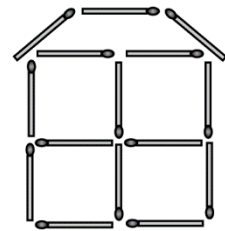
2. How many ropes are there in the picture?

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



3. Michael built a house with matches as in the picture. How many matches did he use?

- (A) 19 (B) 18 (C) 17 (D) 15 (E) 13

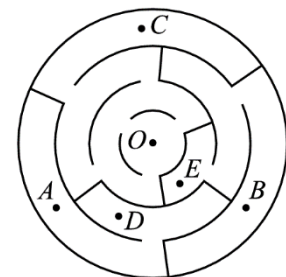


4. In a cave, there were only two seahorses, one starfish and three turtles. Later, five seahorses, three starfish and four turtles joined them. How many sea animals gathered in the cave?

- (A) 6 (B) 9 (C) 12 (D) 15 (E) 18

5. Which point of the labyrinth can we reach starting from the point *O*?

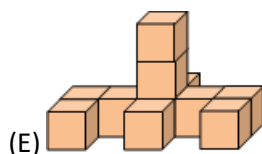
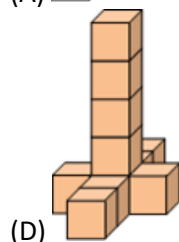
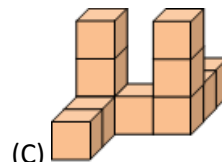
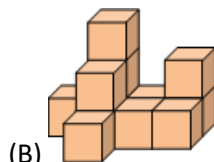
- (A) *A* (B) *B* (C) *C* (D) *D* (E) *E*



6. Ten friends came to John's birthday party, six of them were girls. How many boys were there?

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

(A) 31 (B) 32 (C) 33 (D) 34 (E) 35



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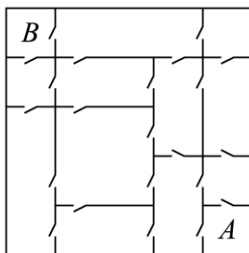
11. Kathryn is 1 year and 3 months old now. In how many months will Kathryn be 2 years old?

- (A) 3 (B) 5 (C) 7 (D) 8 (E) 9

12. Granny went out to the yard and called all the hens and her cat. All together with 20 legs ran to her. How many hens does granny have?

- (A) 11 (B) 9 (C) 8 (D) 6 (E) 4

13. In Baby Annie's house, each room is connected to any neighboring room by a door (see the Picture). Baby Annie wants to get from the room *A* to the room *B*. What is the least number of doors that he will need to go through?



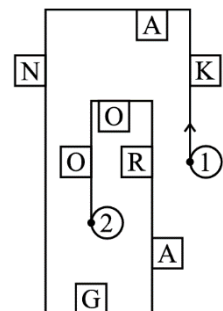
- (A) 3 (B) 4 (C) 5 (D) 6 (E) 7

14. There are twelve rooms in a building and each room has two windows and one light. Last evening, eighteen windows were lighted. In how many rooms was the light off?

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

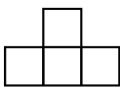
15. Mary is walking along the road and she reads only the letters located on her right side. Moving from point 1 to point 2, what is the word she will get?

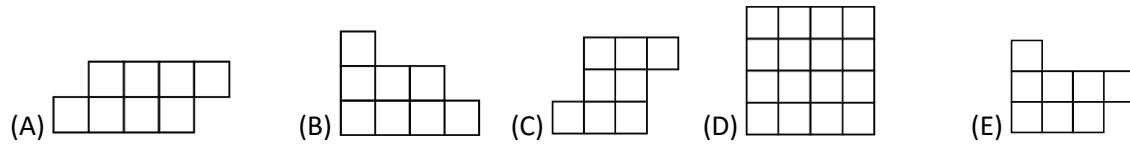
- (A) KNAO (B) KNGO (C) KNR (D) AGRO (E) KAO



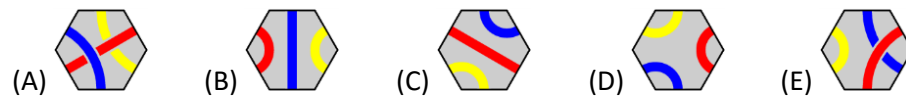
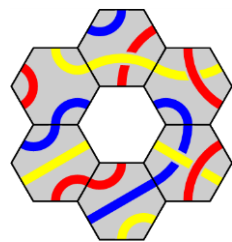
16. The sum of John's and Paul's age is equal to 12. What will be the sum of their ages in 4 years?

- (A) 16 (B) 17 (C) 18 (D) 19 (E) 20

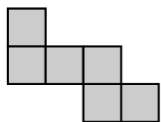
17. Which of the following pictures cannot be made by using figures like  ?



18. Which tile matches the empty middle pattern in the picture?



19. Amy used six equal small squares to build the figure. What is the least number of equal small squares she should add to the picture in order to obtain a larger square?



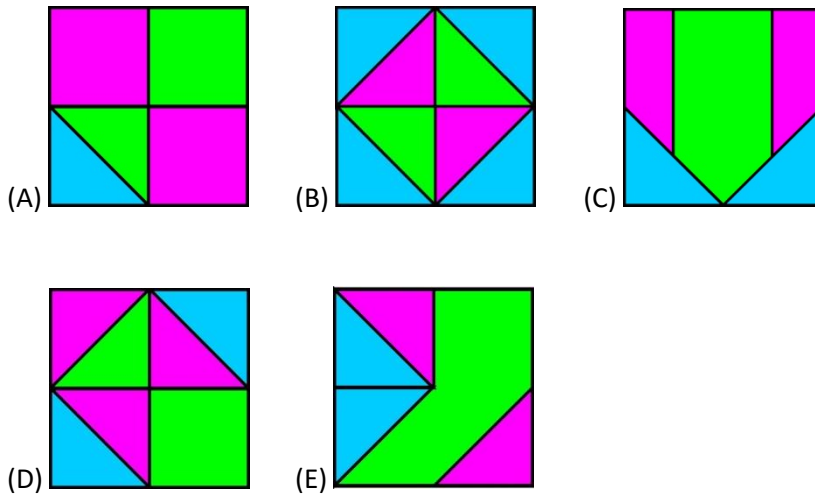
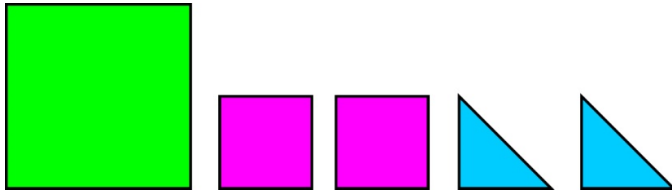
- (A) 6 (B) 8 (C) 9 (D) 10 (E) 12

20. Five sparrows sat on a wire as shown in the picture. Some of them looked to their left, others looked to their right. Each sparrow chirped only once to each bird it saw on its side. For example, third sparrow chirped two times. In total, how many times did they chirp?

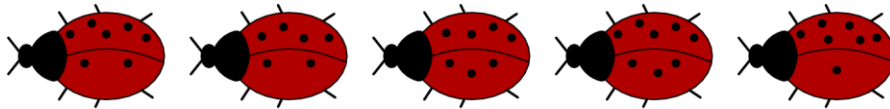


- (A) 6 (B) 8 (C) 9 (D) 10 (E) 12

21. Which pattern can we make using all five cards given below?



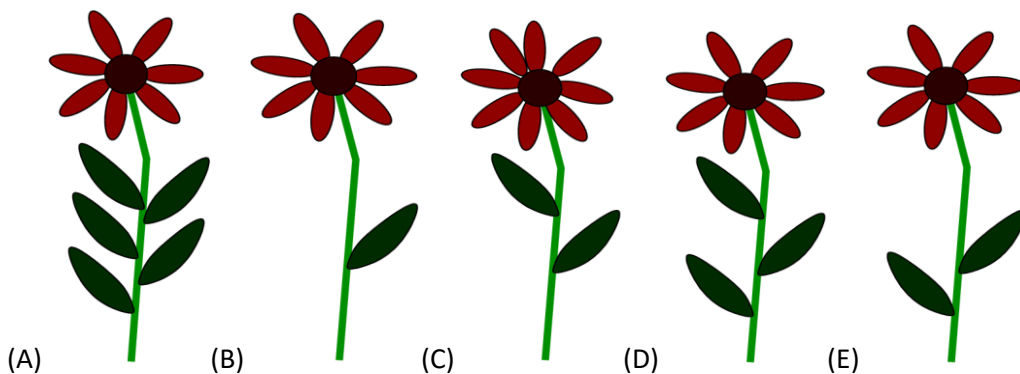
22.



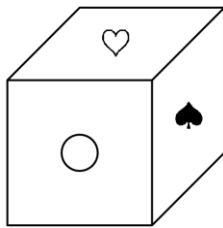
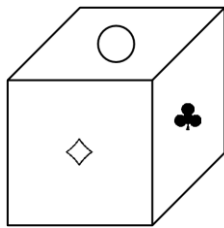
In the picture you see 5 ladybirds. Each one sits on its flower.

Their places are defined as follows: the difference of the dots on their wings is the number of the leaves and the sum of the dots on their wings is the number of the petals.

Which of the following flowers has no ladybird?



23. On each of six faces of a cube there is one of the following six symbols: ♠, ♥, ♦, ♣, ■ and O. On each face there is a different symbol. In the picture we can see this cube shown in two different positions. Which symbol is opposite the ■ ?



- (A) O (B) ♦ (C) ♥ (D) ♠ (E) ♣

24. The numbers 1, 5, 8, 9, 10, 12 and 15 are distributed into groups with one or more numbers. The sum of the numbers in each group is the same. What is the largest number of groups?

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

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