



# Kangaroo 2018 Ecolier

(4th and 5th grade)

NAME \_\_\_\_\_

CLASS \_\_\_\_\_

Points: \_\_\_\_\_ Kangaroo leap: \_\_\_\_\_

Separate this answer sheet from the test. Write your answer under each problem number.

A right answer gives 3, 4 or 5 points. Every problem has exactly one right answer.

For each wrong answer,  $\frac{1}{4}$  of the points of the problem will be deducted, for example for a 4 points problem -1 point. If you leave the answer empty, no deduction will be made.

There are two goals: to score as many points as possible or to have as many consecutive right answers as possible.

### 3 points

PROBLEM	1	2	3	4	5	6	7
ANSWER							

### 4 points

PROBLEM	8	9	10	11	12	13	14
ANSWER							

### 5 points

PROBLEM	15	16	17	18	19	20	21
ANSWER							

Contest not to be held before 15<sup>th</sup> of March.

Logo design by Veijo Nurminen.



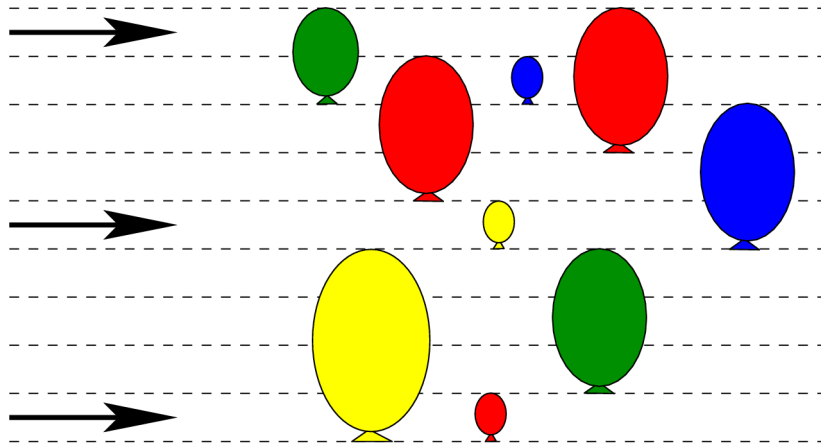
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3 points

1.

In the figure, you see arrows and balloons. The arrows fly straight forward and pop every balloon on their path. How many balloons are popped?



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

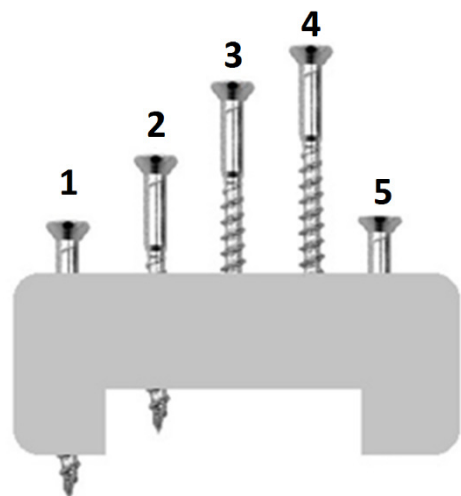
2.

Leo is 6 years old. His sister Milana is a year younger and his brother Aaro a year older than Leo. How old are they altogether?

- (A) 10 years              (B) 15 years              (C) 18 years              (D) 21 years              (E) 30 years

3.

There are five screws in the figure. Four of them are equally long, but one is shorter. Which screw is the short one?



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



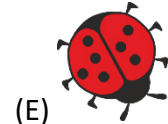
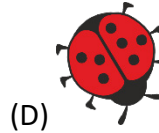
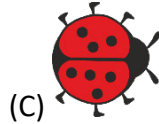
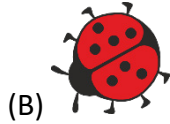
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4.



Here is ladybug Iman: . She keeps turning around. Which of these ladybugs is **not** Iman?

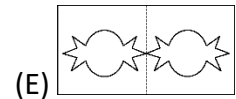
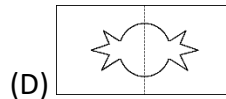
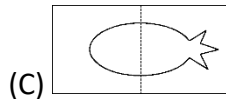
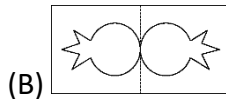
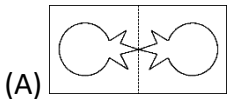


5.

Marko folds a paper into two and cuts it like this:

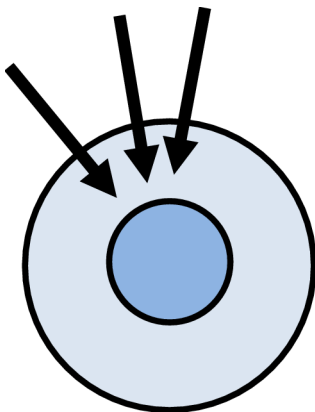


Which of the patterns could be seen when Marko opens the paper?

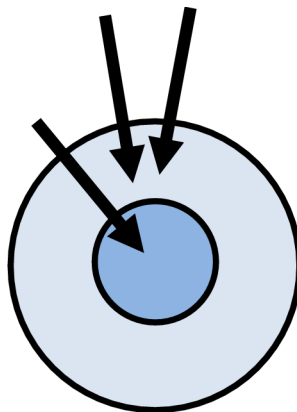


6.

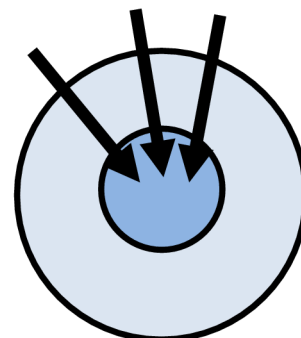
First Akseli scored 12 points with three arrows. On the next round he scored 15 points. How many points did he get on the third round?



12 points



15 points



???

(A) 18

(B) 19

(C) 20

(D) 21

(E) 22

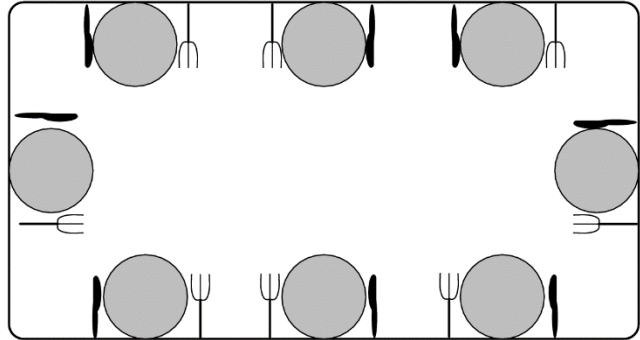


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7.

Heiger is setting up the table for 8 persons. The correct arrangement is to have a knife at the right side of the plate and a fork at the left side of the plate. For how many persons is the table set correctly?



(A) 6

(B) 5

(C) 4

(D) 3

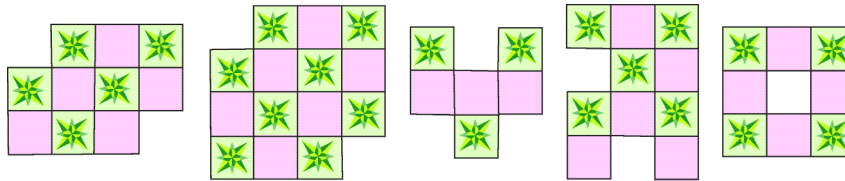
(E) 2

4 points

8.

Haaruun is building patterns with tiles like this: .

How many of the following patterns are possible to build without overlapping the tiles?



(A) 1

(B) 2

(C) 3

(D) 4

(E) 5

9.

Lassi fills the grid with figures like this:



No row and no column should have the same figure twice. Which figure should go to the place of the question mark?

			?	

(A)

(B)

(C)

(D)

(E)



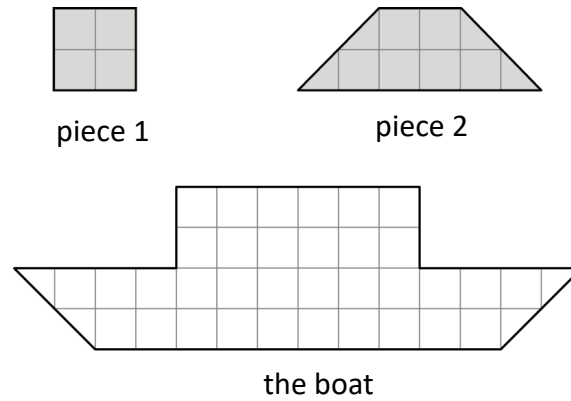


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10.

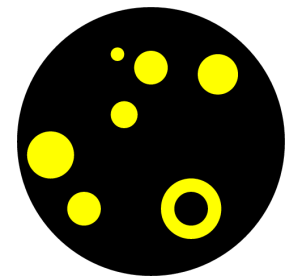
Kalle has cut two types of pieces of paper. What is the minimum number of pieces he needs to build the boat in the figure?

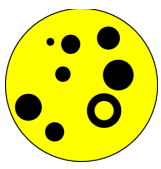
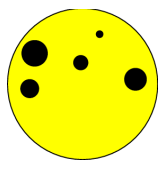
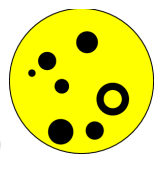
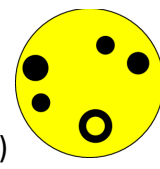
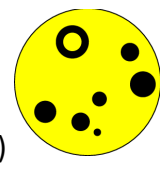


- (A) 5                      (B) 6                      (C) 7                      (D) 8                      (E) 9

11.

The colours are reversed in the figure on the right. Then the figure is rotated. Which of these is the result?



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

12.

A bunny had 20 carrots. Each day she ate 2 carrots. The bunny ate the last carrot on a Wednesday. On which day did the bunny eat the first carrot?



- (A) Monday              (B) Tuesday              (C) Wednesday              (D) Thursday              (E) Friday



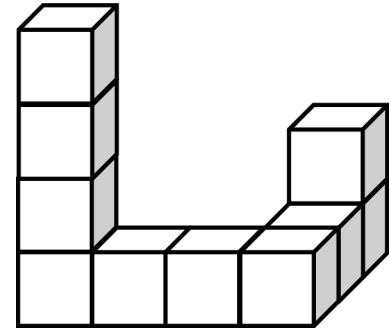
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13.

Roope glued 10 cubes together to form the solid seen in the figure. Roope dips the entire solid into paint and lifts it up.

How many of the cubes have paint on exactly four faces?



(A) 6

(B) 7

(C) 8

(D) 9

(E) 10

14.

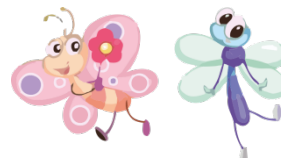
In the rose bush, there are 8 flowers. Butterflies and dragonflies are sitting on flowers.

Each flower has at most one insect.

More than half of the flowers have either a butterfly or a dragonfly in them.

There are twice as many butterflies as there are dragonflies.

How many butterflies are sitting on the flowers?



(A) 2

(B) 3

(C) 4

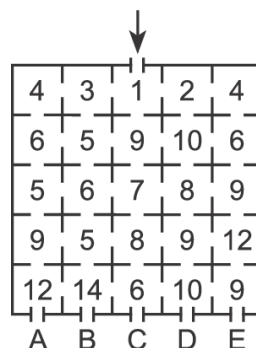
(D) 5

(E) 6

5 points

15.

Daniel has painted numbers to each room of his. His friend Ekrem comes to visit and enters the door marked with an arrow. Ekrem walks through the rooms always entering a room with a larger number than the previous one. Which door does Ekrem use to exit the house?



(A) A

(B) B

(C) C

(D) D

(E) E

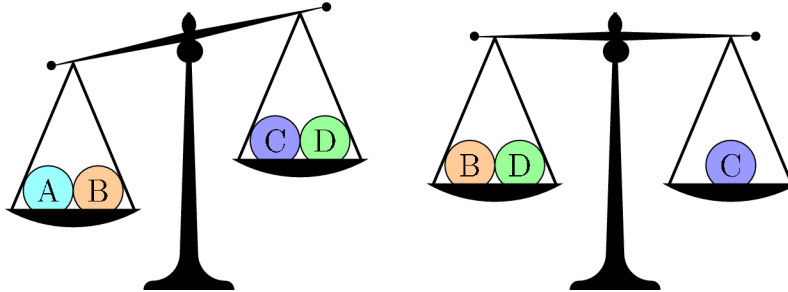


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16.

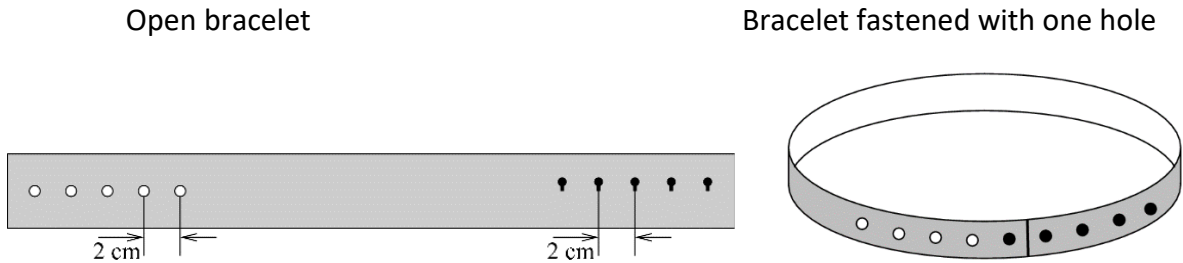
The balls weigh 10 kg, 20 kg, 30 kg and 40 kg. Which ball weighs 30 kg?



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






17.

Jimmy has a bracelet that can be fastened in five different ways. How much longer is the bracelet fastened with one hole than the bracelet fastened with all holes?







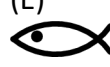
- (A) 4 cm
- (B) 8 cm
- (C) 10 cm
- (D) 16 cm
- (E) 20 cm

18.

In the ancient kangaroo language the symbols      mark numbers 1, 2, 3, 4 and 5, not necessarily in this order. It is known that

$$\begin{array}{ccc}
 \text{atom} + \text{atom} = \text{fish} & \text{sun} + \text{sun} = \text{atom} & \text{sun} + \text{fish} = \text{hand}
 \end{array}$$

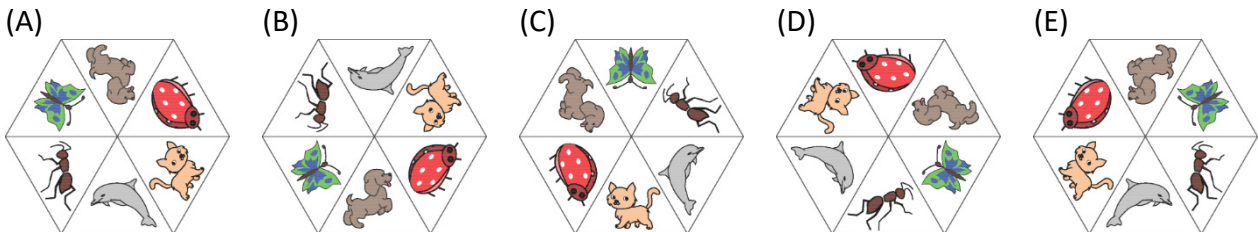
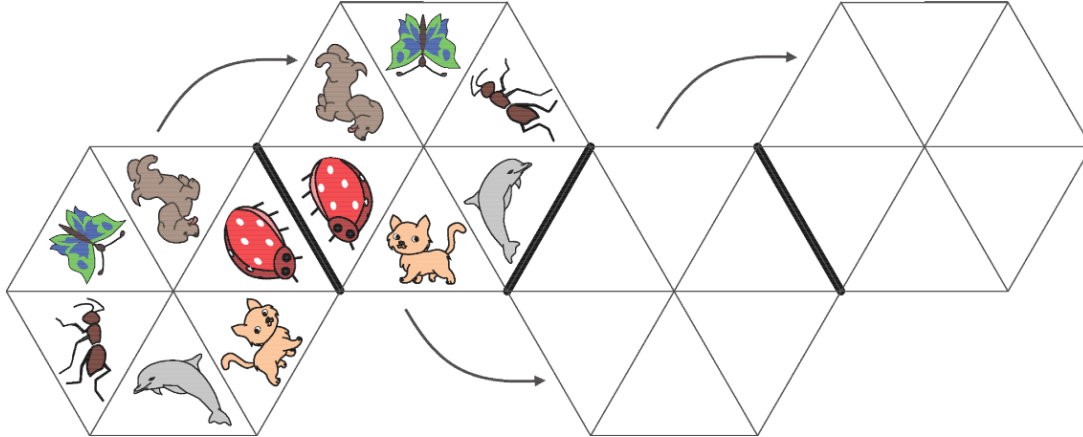
Which symbol marks the number 3?

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



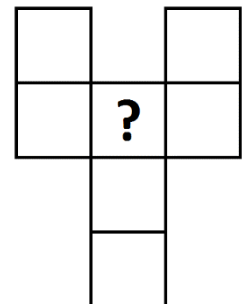
19.

Mikael is turning a piece of glass on the table. The first turn is shown in the figure. What does the glass piece look like when it reaches its rightmost position?



20.

Otso writes the numbers 1 – 7 to the grid on the right. Two consecutive numbers must not be in neighbouring squares. The squares are considered neighbours if they touch at sides or at corners. Which numbers could be placed at the square marked with a question mark?



- (A) Any number      (B) Only odd numbers      (C) Only even numbers      (D) Only number 4      (E) Only number 1 or 7

21.

Sohaib is fighting a dragon.

To win, Sohaib must cut all the dragon's heads off.

Every time three heads are cut off, the dragon immediately grows a new head.

Sohaib wins the battle by cutting 14 heads off.

How many heads did the dragon have in the beginning?

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