

# Kangaroo 2015 Benjamin

(6<sup>th</sup> and 7<sup>th</sup> grade)

NAME \_\_\_\_\_

CLASS \_\_\_\_\_

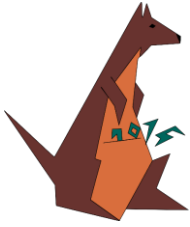
Points: \_\_\_\_\_ Kangaroo leap: \_\_\_\_\_

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

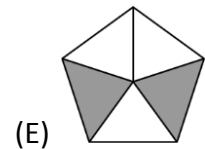
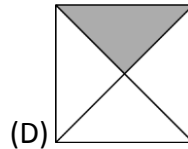
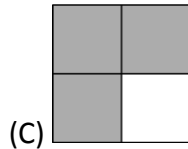
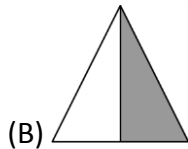
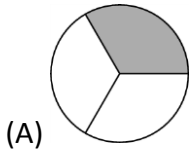
PROBLEM	1	2	3	4	5	6	7
ANSWER							

PROBLEM	8	9	10	11	12	13	14
ANSWER							

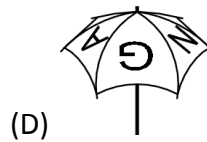
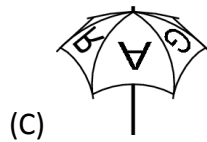
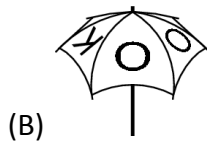
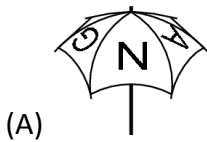
PROBLEM	15	16	17	18	19	20	21
ANSWER							

**3 points****1.**

Which figure has exactly one half shaded?

**2.**

My umbrella has KANGAROO written on top. It is shown in the picture. Which of the following pictures does not show my umbrella?

**3.**

It takes half an hour for Jenna to walk half of the way from school to home. How long does it take Jenna to walk home from school.

(A) 15 minutes

(B) half an hour

(C) 1 hour

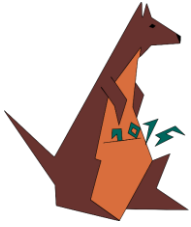
(D) 45 minutes

(E) 40 minutes

**4.**

Which of the following fractions is smaller than 2?

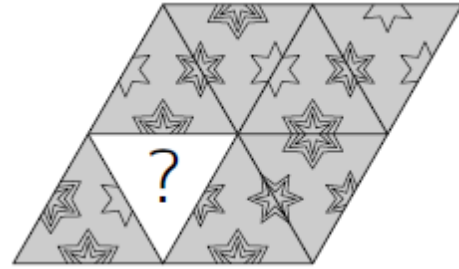
(A)  $\frac{19}{8}$ (B)  $\frac{20}{9}$ (C)  $\frac{21}{10}$ (D)  $\frac{22}{11}$ (E)  $\frac{23}{12}$



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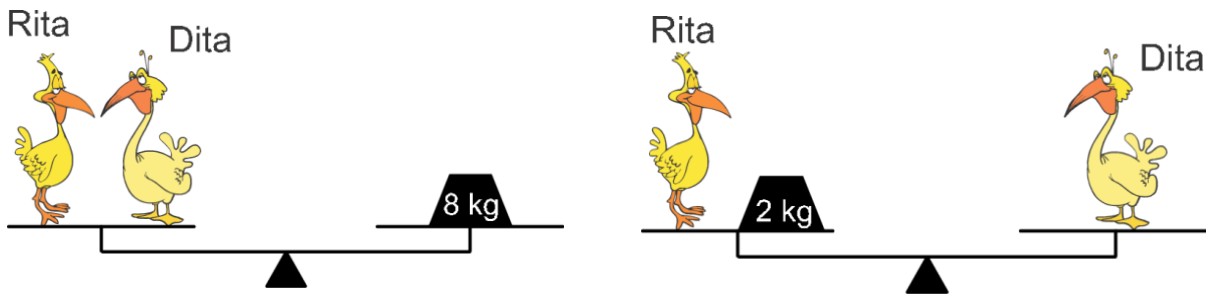
(6<sup>th</sup> and 7<sup>th</sup> grade)

5.  
What piece is missing?

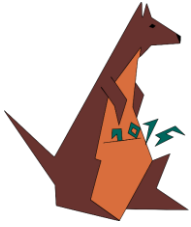


- (A)  (B)  (C)  (D)  (E) 

6.  
How much does Dita weigh?

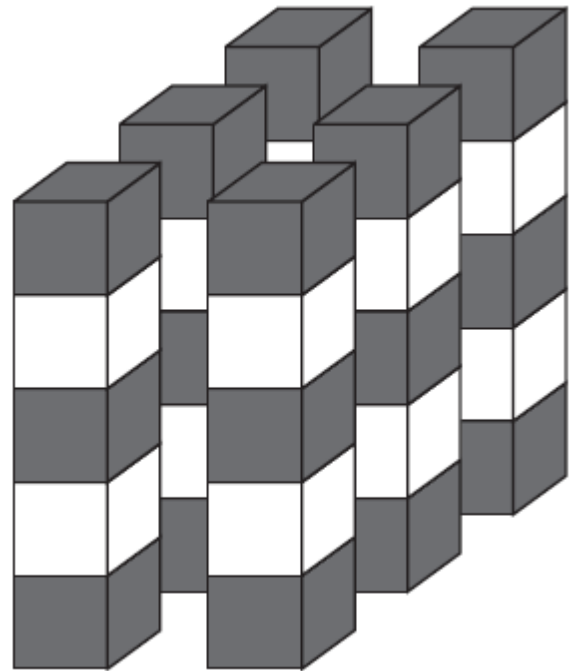


- (A) 2 kg      (B) 3 kg      (C) 4 kg      (D) 5 kg      (E) 6 kg



7.

Six towers are built with grey cubes and white cubes, as shown in the picture. Each tower is made of five cubes. Cubes of the same colors do not touch. How many white cubes are there?



(A) 10

(B) 11

(C) 12

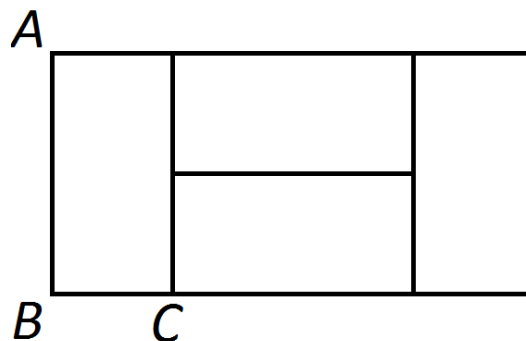
(D) 18

(E) 30

4 points

8.

The rectangle in the picture consists of 4 equal rectangles. If  $BC$  has length 1 cm, what is the length of  $AB$ ?



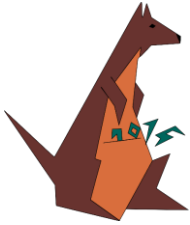
(A) 4 cm

(B) 3 cm

(C) 2 cm

(D) 1 cm

(E) 0,5 cm



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9.

Old MacDonald has 10 ducks. 5 of these ducks lay an egg every day. The other 5 lay an egg every second day. How many eggs do the 10 ducks lay in a period of 10 days?

- (A) 100                      (B) 75                      (C) 50                      (D) 25                      (E) 10

10.

Each plant in Konsta's garden has either 5 leaves, or 2 leaves and 1 flower. In total, the plants have 6 flowers and 32 leaves. How many plants are there in the garden?



- (A) 10                      (B) 12                      (C) 13                      (D) 15                      (E) 16

11.

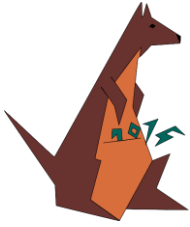
In a bag there are 3 green apples, 5 yellow apples, 7 green pears and 2 yellow pears. Heidi randomly takes fruits out of the bag one by one. How many fruits must she take out in order to be sure that she has at least one apple and one pear of the same color?

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

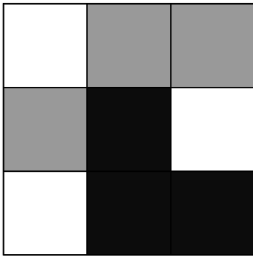
12.

Every day Maiju writes down the date and calculates the sum of the digits written. For example, on March 19th she writes 19.03 and calculates  $1 + 9 + 0 + 3 = 13$ . What is the largest sum that she calculates during a year?

- (A) 7                      (B) 13                      (C) 14                      (D) 16                      (E) 20

**13.**

Sami painted 9 squares with the colors black, white and grey as shown. At least how many squares does he need to repaint with the same colors so that no two squares with a common side have the same color?



(A) 2

(B) 3

(C) 4

(D) 5

(E) 6

**14.**

On Jump Street, there are 9 houses in a row. At least one person lives in each house. Any two neighboring houses together are inhabited by at most six people. What is the largest number of people that could be living on Jump Street?

(A) 23

(B) 25

(C) 27

(D) 29

(E) 31

**5 points****15.**

Sara and her mother were both born in January. Today, March 19th 2015, Sara adds the year of her birth, the year of her mother's birth, her age, and her mother's age. What result does she get?

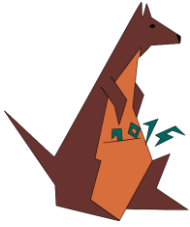
(A) 4015

(B) 4020

(C) 4030

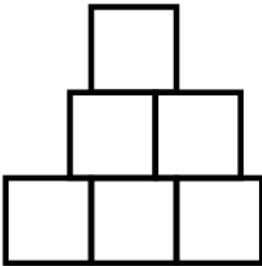
(D) 4032

(E) 4045



16.

Tommi used 6 squares with sides of length 1 to form the shape in the picture. What is the perimeter of the shape?



(A) 9

(B) 10

(C) 11

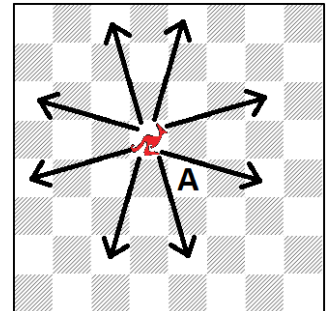
(D) 12

(E) 13

17.

A new chess piece "kangaroo" has been introduced. In each move, it jumps either 3 squares vertically and 1 horizontally, or 3 squares horizontally and 1 vertically, as shown in the picture.

What is the minimum number of moves the kangaroo needs in order to go from its current position to the square marked with A?



(A) 2

(B) 3

(C) 4

(D) 5

(E) 6

18.

Sofia bought 3 toys. For the first toy she paid half of her money and 1 euro more. For the second toy she paid half of the remaining money and 2 euros more. Finally, for the third toy she paid half of the remaining money and 3 euros more, thus spending all of her money. How much money did she have initially?

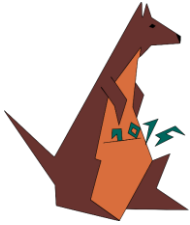
(A) 34 euros

(B) 36 euros

(C) 45 euros

(D) 65 euros

(E) 100 euros



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19.

In a game you should hide 3 kangaroos in 7 boxes in a row. Only one kangaroo can fit in one box, and no two kangaroos can be in neighboring boxes. In how many ways can you hide the kangaroos?



(A) 7

(B) 8

(C) 9

(D) 10

(E) 11

20.

Each coach in the train has the same number of compartments. Exaucé sits in the 7th coach in the 50th compartment from the engine. How many compartments are there in each coach?

(A) 7

(B) 8

(C) 9

(D) 10

(E) 12

21.

Four points lie on a line. Henna finds the distances between every possible pair of points. She obtains, in increasing order 2, 3,  $k$ , 11, 12 and 14. What is the value of  $k$ ?

(A) 5

(B) 6

(C) 7

(D) 8

(E) 9