International Kangaroo Mathematics Contest 2008

Benjamin Level: Class (5 & 6)   **Max Time: 2 Hours**

3-point problems

1)

Which is the smallest?

A) 2 + 0 + 0 +8   B) 200/8   C) 2 x 0 x 0 x 8   D) 8 + 0 + 0 - 2

2)

By what 🦘 can be replaced to have:

🦘 × 🦘 = $2 \times 2 \times 3 \times 3$?

A) 2   B) 3   C) 2×3 D) 2×2

3)

Javed likes to multiply by 3, Parvaiz likes to add 2, and Naveed likes to subtract 1. In what order should they perform their favorite actions to convert 3 into 14?

A) JPN   B) PJN   C) JNP   D) NJP

4)

To make the equality 1 + 1♣1 – 2 = 100 correct, we should replace ♣ with

A) +   B) –   C) 0   D) 1

5)

Numbers 2, 3, 4 and one more number are written in the cells of 2×2 table. It is known that the sum of the numbers in the first row is equal to 9, and the sum of the numbers in the second row is equal to 6. The unknown number is

A) 5   B) 6   C) 7   D) 8

6)

Before the snowball fight, Ali had prepared a few snowballs. During the fight, he made another 17 snowballs and threw 21 snowballs at the other boys. After the fight, he had 15 snowballs left. How many snowballs had Ali prepared before the fight?

A) 53   B) 33   C) 23   D) 19

7)

This is a small piece of the multiplication table.

×	4	3
5	20	15
7	28	21

And this is an other one, in which, unfortunately, some numbers are missing.

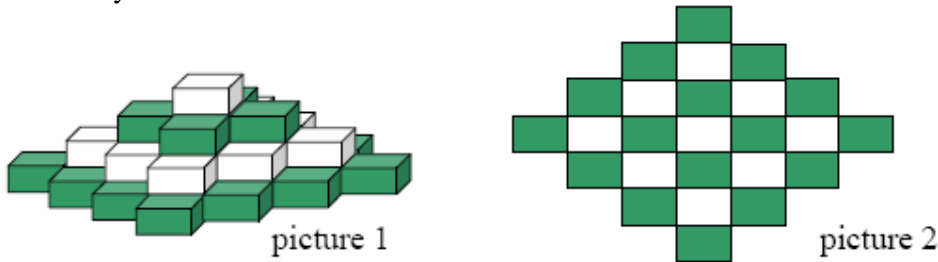| ×		
	35	63
	30	?

What is the number in the square with the question mark ?

A) 54   B) 56   C) 65   D) 36

8)

In a shop selling toys a four-floor black and white "brickflower" is displayed. (picture 1). Each floor is made of bricks of the same colour. On picture 2, the flower is shown from the top. How many white bricks were used to make the flower?

picture 1   picture 2

A) 9   B) 10   C) 12   D) 14

4-point problems

9)

With what number of identical matches it is impossible to form a triangle? (The matches should not be broken!)

A) 7   B) 6   C) 5   D) 4

10)

There are 5 boxes and each box contains some cards labeled A, B, O, R, V as shown. Peter wants to remove cards from each box in such a way that at the end each box contains only one card, and different boxes contain cards with different letters. What card remains in box 5?
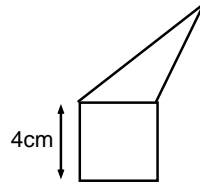

1   2   3   4   5
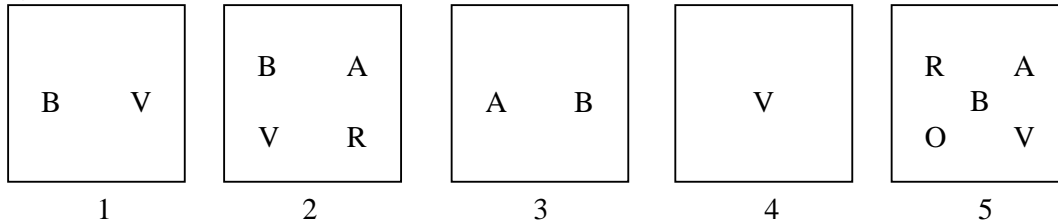
A) A   B) V   C) O   D) R

11)

The triangle and the square have the same perimeter. What is the perimeter of the whole figure (a pentagon)?

4cm

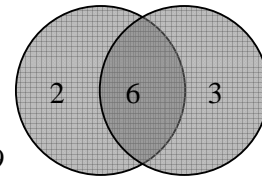A) 12 cm   B) 24 cm   C) 28 cm   D) 32 cm

12)

A circular table is surrounded by 60 chairs. n people are sitting at this table in such a way that each of them is a neighbour of exactly one person. The largest possible value for n is

A) 40   B) 30   C) 20   D) 10

13)

By shooting two arrows at the shown aiming board on the wall, how many different scores can we obtain? (Missing the board is possible.)

2   6   3

A) 4   B) 6   C) 8   D) 9

14)

Rabia has some CDs on a table. She put them into three cases. She put seven CDs into each, but there were still two more CDs, which did not fit into those cases, so she left them on the table. How many CDs does Rabia have?
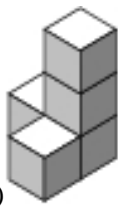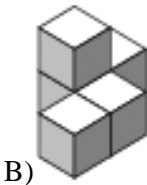
A) 23   B) 21   C) 20   D) 19

15)

Which of the "buildings" (A),..., (E) – each consisting of exactly 5 cubes – can you *not* obtain from the building on the right hand side if you are allowed only to move exactly one cube?
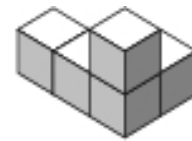
A)   B)   C)   D)

16)

Points *A*, *B*, *C* and *D* are marked on the straight line in some order. It is known that *AB* = 13, *BC* = 11, *CD* = 14 and *DA* = 12. What is the distance between the farthest two points?
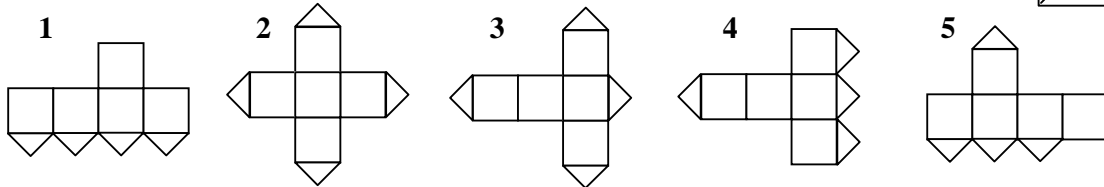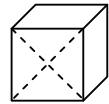
  A) 14   B) 38   C) 50   D) 25

5-point problems

17)

One of the cube faces is cut along its diagonals (see the fig.). Which of the following nets are impossible?

1   2   3   4   5

  A) 1 and 3   B) 1 and 5   C) 3 and 4   D) 3 and 5

18)

Seven cards lie in a box. Numbers from 1 to 7 are written on these cards (exactly one number on the card). Two persons take the cards as follows: The first person takes, at random, 3 cards from the box and the second person takes 2 cards (2 cards are left in the box). Then the first person tells the second one: "I know that the sum of the numbers of your cards is even". The sum of card's numbers of the first person is equal to

  A) 10   B) 12   C) 6   D) 9

19)

For each 2-digit number from 30 to 50, the digit of units was subtracted from the digit of tens. What is the sum of all the results?

  A) 0   B) 15   C) – 5   D) – 15

20)

How many digits can be at most erased from the 1000-digit number 20082008…2008, such that the sum of the remaining digits is 2008?

  A) 260   B) 510   C) 746   D) 1020

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GOOD LUCK !