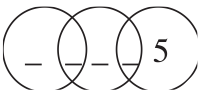
41st CHAMPIONSHIP: MATHEMATICAL AND LOGIC GAMES
FFJM Quarter final: categories CE – CM

Information and results at http://www.ffjm.org/

1. THREE RINGS



The five sections within these three rings contain the numbers 1 to 5, one number per section. The number 5 is already filled in.

Fill in the other four sections with the numbers 1 to 4 so that the sum of the numbers in each ring is 7.

2. LOSING HIS MARBLES

Matthew has 20 more marbles than Mathias. After a fierce game, Mathias wins, and gets 8 marbles from Matthew.

How many more marbles than Mathias does Matthew have now?

3. DIFFERENCE

What is the difference between the largest 3-digit number with distinct digits and the smallest 3-digit number with distinct digits?

The first digit of a number cannot be 0.

4. BONBONS

Matilda has 17 bonbons. She eats one, then gives the rest to her classmates. Each of Matilda's classmates received the same number of bonbons as Matilda has classmates.

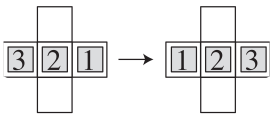
How many children are there in total, including Matilda?

5. THOSE HUNGRY COWS

Together, two cows eat a haystack in 6 days.

In how many days would three cows eat the same haystack?

6. CHANGE THE ORDER



A piece can be moved from one square to an adjacent empty square, horizontally or vertically.

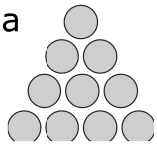
What is the minimum number of moves required to go from the position shown on the left to that on the right?

7. GOLDFISH

Matthew owns some goldfish. All of Matthew's family have two legs and one mouth, but including the goldfish, there are 10 legs and 12 mouths in his house.

How many goldfish does he have?

8. TEN COINS



Ten coins are arranged in a triangle, as shown.

What is the minimum number of coins that must be moved to form a similar triangle pointing downwards?

9. EVENS AND ODDS

Complete the sentence written in the box using numbers you have added so that it is true.

1 ; 2 ; 3 ; 4 ; 5 ; 6
In this frame, when completed, there are:
... even numbers,
and ... odd numbers.

10. DOUBLE AND TRIPLE

	2	
		1

Place the digits from 1 to 9 in the boxes (1 and 2 are already placed) such that:

• The three-digit number in the second row is double the number in the first row;

• The three-digit number in the third row is triple the number in the first row.