MATHEMATICAL.
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OLYMPIADES DE MATHÉMATIQUES
OLIMPIADI DELLA MATEMATICA

ONLINE TEST

1–30 September

The first round consists of a multiple choice test:

- 75 minutes, 10 questions each from 3 difficulty levels
- Two different exams

Grade 7-9:
Level 1, 2 and 3.

Example questions

Grade 10-13:
Level 2, 3 und 4.

Level 1

The mother of Ada, Bob and Charlotte baked 20 biscuits and distributed them to the three children. Because Ada is the oldest, she gets the most. Bob gets 5 biscuits. What is the largest number of biscuits that Charlotte could have received?

a) 5 b) 6 c) 7 d) 8 e) 9

Level 2

Jana thinks of a five digit number and Tim wants to guess it. The first time he guesses 20489 and Jana tells him that exactly two digits are correct and in their right place. The next time he guesses 15673 and Jana says that exactly three digits are correct and in their right place. What is the largest possible number Jana could have thought of?

Level 3

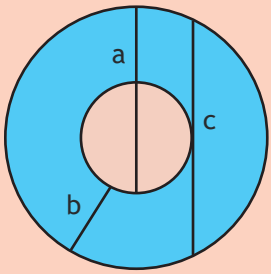
On a blackboard there are multiple positive integers and no number appears twice. Romina computes the product of the two smallest numbers and gets 49. She then computes the product of the two largest numbers and gets 2550.

What is the sum of all the numbers on the blackboard?

Level 4

Which of the following formulas for the area of the coloured region are correct?

a) $\pi c^2/4$
b) $2\pi b$
c) πab
d) $\pi(a-b)^2$



With a good result, you qualify for the next rounds, where you can learn more exciting mathematics and win medals during a one-week camp.
In addition, the best participants get the opportunity to represent Switzerland at International Mathematical Olympiads.

Interested? More information at https://mathematical.olympiad.ch