

MT Classes Math Olympiad

Ages 9–10 • 60 minutes • May 2026



Multiple-choice problems

Each problem has several answer choices. Choose one correct answer and write it on the answer sheet.

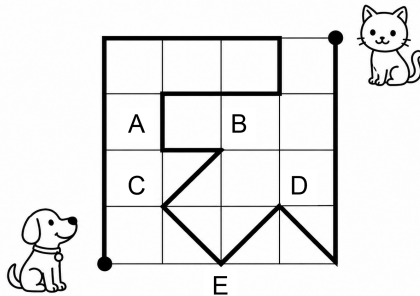
Problem 1 (3 points). Alice thought of a three-digit number, Bella thought of a four-digit number, and Chloe thought of a five-digit number. They wrote their numbers one after another in some order and got the following string:

410790500843

What number did Chloe think of?

- (a) 41079 (b) 79050 (c) 90500 (d) 50084 (e) impossible to determine

Problem 2 (3 points). A cat and a dog started at the same time from different ends of a path and run toward each other along it (see the picture). The dog runs three times as fast as the cat. At which point will they meet?



- (a) A (b) B (c) C (d) D (e) E

Short-answer problems

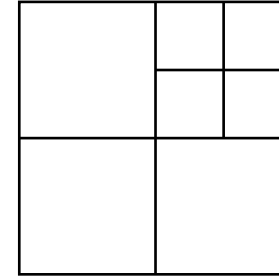
Write only the final answer: a number, an expression, an example, or a short phrase, as required by the problem. You do not need to give a solution; only the answer is checked.

Problem 3 (5 points). In each square, write one arithmetic operation sign: +, −, ×, or ÷, so that the equality becomes true:

$$4 \square 4 \square 4 \square 4 = 5 \square 5 \square 5 \square 5.$$

You may not use parentheses. You do not have to use all four signs: some signs may not appear at all, and some may be used more than once.

Problem 4 (5 points). Leo found a way to cut a square into 7 smaller squares: there were 3 large squares and 4 small squares.



Help Leo find a way to cut a square into 8 smaller squares. The resulting squares do not have to be all the same size, but the original square must be cut completely, with no extra pieces left over.

Problem 5 (5 points). Andrew, Ben, and Daniel were eating candies, each at his own constant speed. While Andrew ate 4 candies, Ben managed to eat only 3. Daniel ate faster than everyone else: he ate 7 candies while Andrew ate 6. Altogether the boys ate 70 candies. How many candies did each boy eat?

Problems requiring a full solution

Write a complete solution: your reasoning, explanations, and a proof where needed. Both the final answer and the logic of your solution will be checked.

Problem 6 (7 points). In a row there are 12 counters: 3 blue, 2 yellow, 3 red, and 4 green. One end of the row has a yellow counter, and the other end has a red counter. The tenth counter from the left is blue. All green counters are consecutive, and all red counters are consecutive. What color can the sixth counter from the left be? Find all possible answers and prove that there are no others.

Problem 7 (7 points). Alice, Ben, Charlie, and Diana took part in a table tennis tournament. Each player played each of the others exactly twice. The tournament had 6 rounds, and in each round every player played exactly one match. There are no draws in table tennis.

After the tournament, a string of six symbols was written down for each player: 1 means a win, and 0 means a loss. The symbols are in the order in which that player played their matches. The result strings of three players are known:

Alice: 111011, Ben: 101010, Charlie: 010100.

Recover Diana's result string.