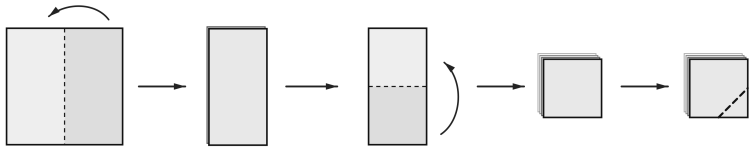
MT Classes Math Olympiad

Ages 9–10 • 60 minutes • October 2026 • English

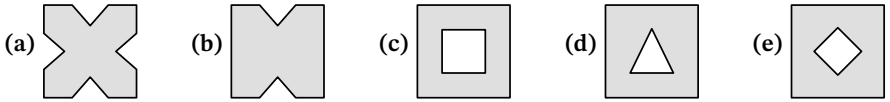
Multiple-choice problems

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

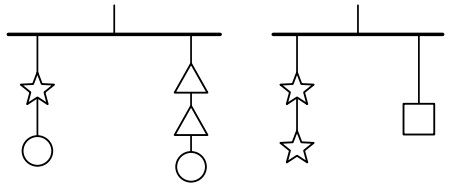
Problem 1 (3 points). A square sheet of paper was folded in half twice, as shown in the figure.



The folded sheet was cut along the dashed line. Which of the figures below is obtained after the sheet is unfolded?



Problem 2 (3 points). In the figure, all scales are in balance: on each beam, the figures on the left weigh as much as the figures on the right. Identical figures have identical weights. The weights of the beams and strings are ignored.



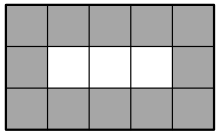
How many times heavier is the square than the triangle?

(a) 2 **(b)** 3 **(c)** 4 **(d)** 5 **(e)** 6

Short-answer problems

Write only the final answer (a number, an expression, an example, a short statement — as required in the problem). No solution is needed: only the answer is checked.

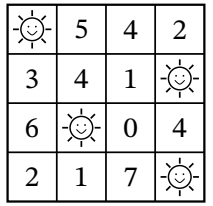
Problem 3 (5 points).



A rectangle is divided into unit cells. All cells along its edges are colored black, and the rest are left white. For example, the rectangle in the figure has 12 black and 3 white cells.

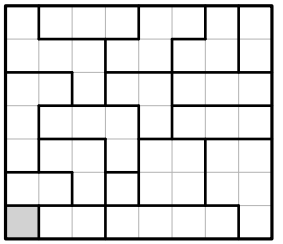
Draw a rectangle of this kind with 8 more black cells than white cells.

Problem 4 (5 points).



Lucy wrote a number in each cell of a table. The sums of the numbers in all rows and columns turned out to be equal. Then four numbers were covered with suns. What is the sum of the covered numbers?

Problem 5 (5 points).



A gardener's plot is a rectangle of 7×8 cells divided into garden beds, as shown in the figure. The gardener starts his walk in the bottom-left cell and ends it in the same cell, returning to it only at the last step. At each step he moves to a cell sharing a side with the current one, and he makes the first step upward. He visits every other cell of the plot exactly once.

The gardener visits each bed, except the one containing the starting cell, exactly once, that is, he crosses its boundary exactly twice: once entering it and once leaving it. Draw the gardener's route.

Full-solution problems

Write a complete solution: your reasoning, justifications and proof (where required). Both the answer and the reasoning are assessed.

Problem 6 (7 points). In October Kate went for a walk every day. On 16 days rain was forecast, and on those days Kate took an umbrella. On 21 of the 31 days the forecast matched the weather. Katya was never caught in the rain without an umbrella. How many days in October had no rain?

Problem 7 (7 points). Sixteen cards have the numbers from 1 to 16 written on them, each exactly once. The cards were turned face down, and Mary, without seeing the numbers, took nine of them.

Prove that whichever nine cards she gets, after turning them over there will necessarily be two cards among them whose numbers sum to 17.