

University of Washington Math Olympiad 2026

Grades 6–7

Problem #1 The centipedes on Rainbow Island have 24 or 26 legs. Centipedes with 24 legs always lie, and centipedes with 26 legs always tell the truth.

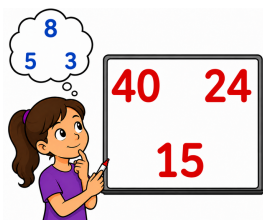
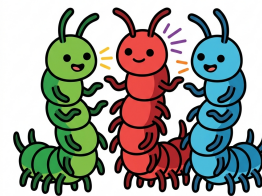
Three centipedes sat on a rock.

“The three of us all have the same number of legs,” said the green one.

“Together, we have 72 legs,” said the red one.

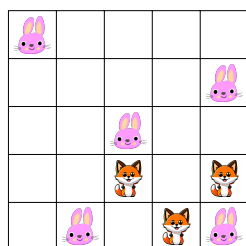
“No, together we have 74 legs,” said the blue one.

How many legs does each centipede have?



Problem #2 Sasha chooses three positive integers, multiplies each pair, and writes the resulting three products on a board. She then calculates the difference between each pair of numbers on the board, always subtracting a smaller number from a larger one. Two of the differences are 49 and 1. What is the third difference?

Problem #3 There are 26 people standing in a line. Alex is at the front of the line and Zachary is at the end of the line. Everyone has at least 13 friends among the other people in the line. Prove that it is always possible to find two people next to each other in the line so that the person who is closer to the front of the line is friends with Zachary and the person closer to the end of the line is friends with Alex.



Problem #4 The rabbits and foxes in Professor Owl's class sit in a 5×5 grid of desks. Each desk has at most one animal but some desks may be empty. Every pair of rabbits in the same row or column must have at least one fox sitting somewhere between them. Professor Owl's class has 4 foxes. What is the largest number of rabbits it could have?

Problem #5 There are 16 pastry chefs attending a baking workshop. Initially, each chef knows the secret recipe for their own unique dessert. Every day, a chef can either attend one baking class taught by another chef or teach one class of their own. In each class, the chef teaching the class shares their own recipe and every recipe they have learned with everyone attending the class.



What is the fewest number of days needed for every chef to learn all 16 recipes?