

# University of Washington Math Olympiad 2026

## Grades 6–7

**Problem #6** On the island of Artinia, some cities are connected with two-way roads. There are no one-way roads, and any pair of cities is connected by at most one road. If the government were to close any one road for repairs, it would still be possible to drive from any city to any other city. Show that the government could carefully pick a direction for every road to make it one-way, and it would still be possible to drive from any city to any other city when all the roads are open.



**Problem #7** Ten fluffy cats are sitting on a long fence. Every minute, some pair of cats hiss at each other, and then each jumps 1 meter away from the other along the fence. If the two cats are at the same spot when they hiss, they jump 1 meter in opposite directions.

Show that after 2026 minutes, there must be two cats more than 90 meters apart.

