



## Chicago Junior Mathematics League Video Contest – Meet 2 2023-2024

### Guidelines:

- Students from each grade level (6, 7, 8) from your school may submit up to two videos on the given problem. Each video submitted must be produced by different students, but must all be from the appropriate grade level. For example, if your school decides to submit two sixth grade videos, there should be different sixth graders in each video.
- Each video should be no more than **FOUR** minutes in length.
- The problems are to be solved and the videos produced by student groups. The bulk of the work should be done by students. A parent or teacher holding a camera is fine, but solving a problem for the students is not.
- Videos must be produced by a group of at least two students, and at most five students. Each participating student's contribution should be made evident either from an appearance in the video or a credit at the beginning or end of the video. Indicate names of all students involved (maximum of 5) in credits or introductions of the video.
- Points will be awarded as follows.
  - Videos will be ranked by **correctness of solution, thoroughness of explanation, and creativity**. The top videos will earn 5, 4, 3, 2, or 1 points each, respectively, for placing in the top five. The producers of the top 5 videos will also receive prizes in addition to the team winning points.
  - Creative solutions and presentations are encouraged, but correct math outweighs all. Please make the focus of your video the mathematics. If you have a creative context, that is great to see, but it should not be the focus of your video. Soundtracks should not distract or interfere with the explanation of the solution.

### Submission:

- Coaches should select the best two videos for each grade level to submit for judging.
- Coaches should upload videos to Google Drive and share access with Daniel Kang (dhkang@cps.edu).
- Please use the following naming conventions for the videos:  
school\_grade\_teamnumber\_contestnumber\_year.  
For example, a submission for CJML Contest 2 for the seventh grade team from Ward in the 2017–2018 school year should be named as follows: ward\_7\_team1\_contest2\_1718.
- All submissions must be shared by **5:00pm** on Monday, January 22, 2024.

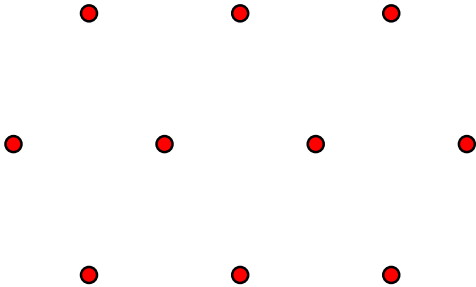
Please direct any questions about the contest to Daniel Kang (dhkang@cps.edu).

Coaches who are interested in helping judge the submissions should email Michael Caines (macaines@cps.edu) by the submission deadline. **GOOD LUCK!**

**PROBLEMS:**

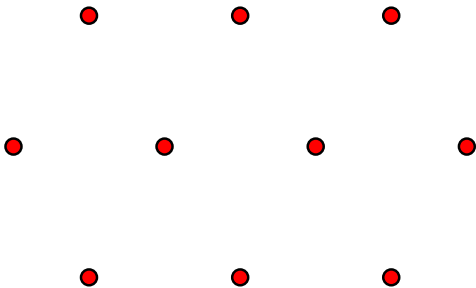
**6<sup>th</sup>-Grade problems:**

- (a) How many equilateral triangles can be made by connecting vertices (points) on the equilateral triangular lattice below?
- (b) How many triangles can be made by connecting vertices (points) on the lattice below?



**7<sup>th</sup>-Grade problems:**

- (a) How many parallelograms can be made by connecting vertices on the equilateral triangular lattice below?
- (b) How many quadrilaterals can be made by connecting vertices on the lattice below?



**8<sup>th</sup>-Grade problem:**

- (a) Which lengths can be made by connecting pairs of vertices on the equilateral triangular lattice below? You may assume that each vertex is one unit away from its nearest neighbors.
- (b) How many different paths can be drawn from *A* to *B*, if every move must be: (i) *to the right*, (ii) *up and to the right*, or (iii) *down and to the right* along the grid lines?

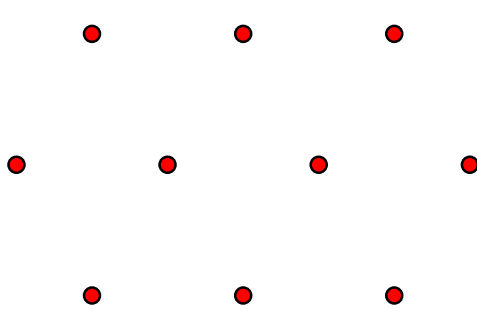


Figure for part (a)

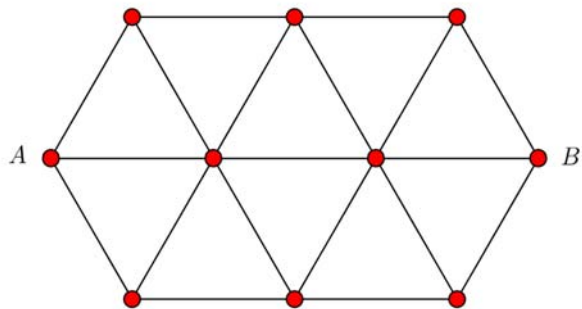


Figure for part (b)