



A Math Circle in Rural Wisconsin

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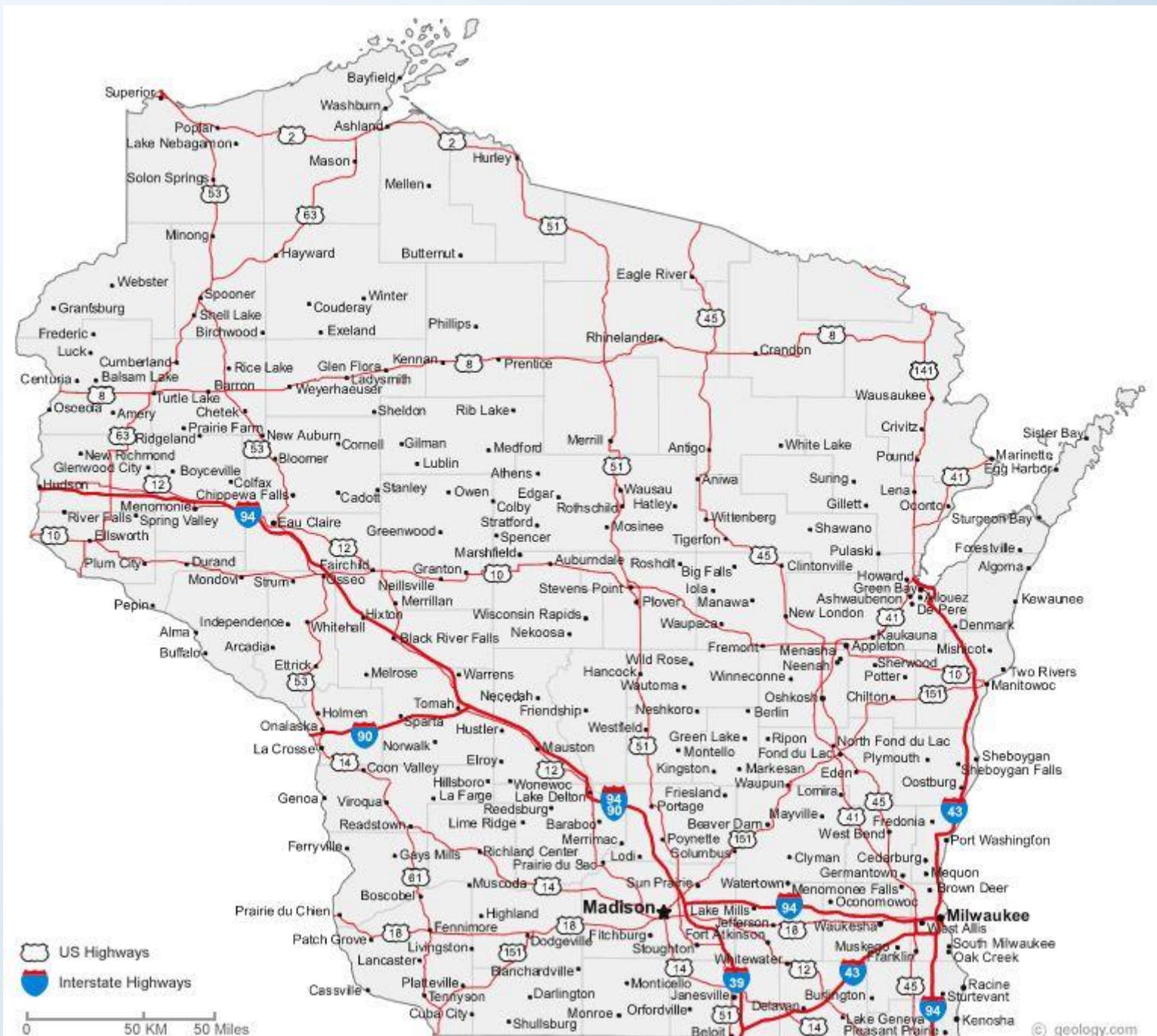
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Western Wisconsin Math Student Circle



Wisconsin!



Rural Western Wisconsin

School Districts: Cadott, Chippewa Falls, Eleva-Strum, Gilman, Greenwood, Mondovi, New Auburn, Osseo-Fairchild, others



Gifted Talented Students Education Program Grant



- **Grantor:** Wisconsin Department of Public Instruction
- **Grantee:** Cooperative Education Service Agency (CESA) 10
- **Purpose:** Provide to gifted and talented pupils those services and activities not ordinarily provided in a regular school program that allow pupils to fully develop their capabilities.
- **Three needs identified in grant proposal:** Fifth grade writing, middle school leadership, and high school mathematics.

Grant's Math Component Description

Identified Needs by the Gifted/Talented Coordinators:

- Deeper, richer mathematics exploration for high school students.
- Talented high school math students need enrichment beyond advanced placement courses (if those are even offered).
- *Beyond the threshold* common core standards: “Additional mathematics that students should learn in order to take advanced courses”.

Attendees

- Talented high school students were invited to participate in the Math Circle based on prerequisites and teacher recommendations.
- Initially, juniors and seniors were recruited. However, due to their difficulties in attending, freshman and sophomores were also recruited.
- Goal: 20 to 25 students.
- Teachers were also encouraged to attend.

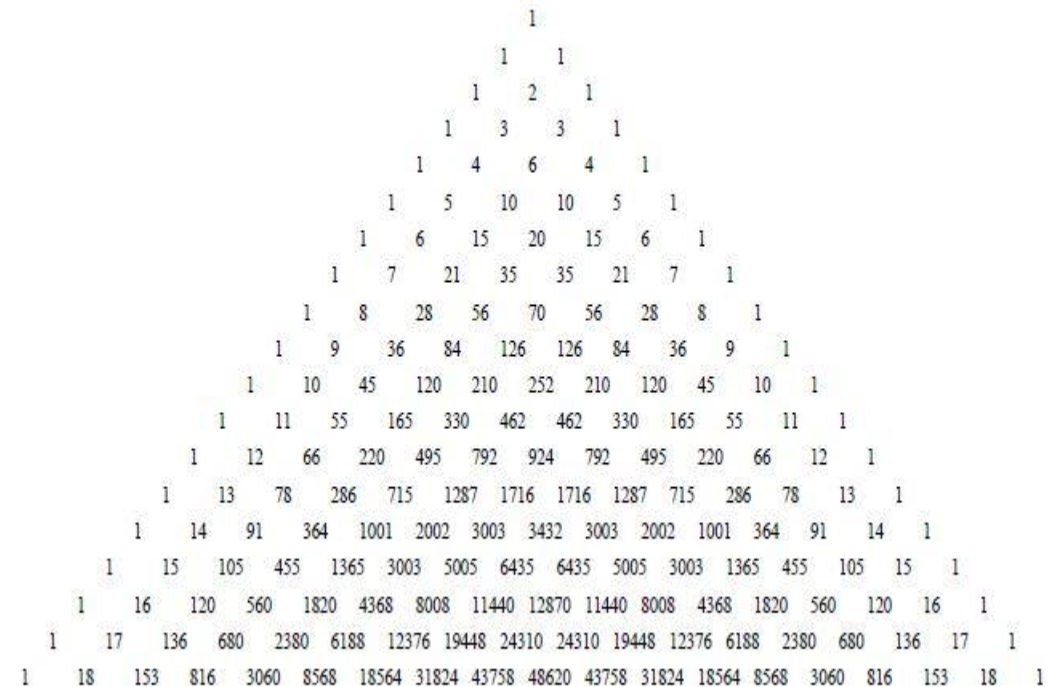
Logistics

- 3 sessions in November – January. (Mostly same students each session.)
- 10am – 2pm during the school day and lunch was provided.
- Students were bussed to a CESA 10 classroom in Chippewa Falls.
- Funds for substitute teachers provided by grant.



Theme: Problem-solving Strategies

- Grant required to explicitly address strategies.
- Problems were chosen to try to emphasize certain problem-solving strategies, such as:
 - Try something! Patience!
 - Be organized
 - Patterns
 - Using different representations
 - Backwards problem-solving
 - Start with an easier problem
 - Generalizing



Teacher and Staff Participation

- Most, though not all, teachers that transported the students to the Circle participated and enjoyed it as much as the students!
- Made sure there was a boundary between the teachers and the students so that the teachers did not feel they needed to “help” the students.
- Prior to the start of the Circle, an after school in-service was planned to be broadcast to math teachers with the Circle leader. This was to inform teachers about math circles to help them decide which students to invite. This did not happen.

Student Evaluation

What did you find most valuable?

- “Working with different people”; “different schools.”
- “Learning different strategies, tactics.”

Note the first one is about community as much as about the mathematics.



Student Evaluation

Improvement on this training?

- “Nothing”.
- “I really don’t know how to get this better”.
- “Having the answers so you know if you did the problem right.”
- “More hands on to make more interesting”.

Conclusion

Math Student Circle in Rural Wisconsin



- Opportunity not ordinarily available to rural students.
- Challenging logistically.
- Important component was coordinating and cooperating with local education agency CESA-10 to make it happen (funding and planning).
- Beneficial to teachers.

Thanks!

