

Announcing the Eighth Annual  
***Student Mathematics Problem Solving Competition***

Presented by

Sacramento Area Mathematics Educators & Sacramento State Mathematics Project  
at their annual mini-conference for teachers:

**"Making Mathematics Meaningful"**

Rules:

1. **Put your info on it:** Clearly indicate the student name(s), the grade level of the student(s), and the school and math teacher(s) of the students(s) on the submission. You must complete and have your parents digitally sign and return the release form attached.
2. **Submit your entry:** Student submissions must be digital: slide show, photographs, video, audio recording, etc. Submit it to [Lfury@wpusd.org](mailto:Lfury@wpusd.org) **before** Entries must be sent to [Lfury@wpusd.org](mailto:Lfury@wpusd.org) by April 6, 2020 at 4:00 pm.
3. **The problem/prompt begins on page 3:** Respond to all of the prompts and use images A, B, and C to analyze the problem.
4. **Partner or individuals allowed:** Students are to complete the problems individually or with 1 other student partner.

Students will be invited to attend a math teacher conference April 18 where they will be introduced and announced to the attending teachers, but this is not required. If a student and her/his family wants to attend, RSVP attendance to the conference by April 6, 2020 to [Lfury@wpusd.org](mailto:Lfury@wpusd.org). More instructions about the event time and location will be given soon.

Student entries will be awarded points on the basis of the quality of their solution process and the clarity of their explanations—not on the basis of the method the student chooses to communicate the solution process. Winners will be chosen for each grade level, so that grade 3 students only compete against other grade 3 students, etc.

If you have any questions, email them to Lori Fury [Lfury@wpusd.org](mailto:Lfury@wpusd.org).

# Parental Consent for Classroom Student Work MANDATORY RELEASE FORM

(to be completed either by a parent or legal guardian of minor students)

## Dear Parent/Guardian:

I, Debra K. Stetson, am the Vice President of the Sacramento Area Mathematics Educators (S.A.M.E.) Board and the Director of the California Mathematics Project at Sacramento State (CMPSS). The SAME Board and the CMPSS work together each year to hold a mathematical conference to expand teacher knowledge in education and mathematics. As part of this conference we are holding a Student Competition.

By submitting your work to the S.A.M.E. Student Competition, it becomes property of S.A.M.E. with you cited as the creator. You also are agreeing to allow us to show your work to other teachers for the purposes of helping them learn strategies for teaching students like you in the future.

If your child participates she/he may be captured in photos/videos of the S.A.M.E. Student Competition. No student names or teacher names will be used in any public use of photos/videos.

If you consent to your child's participation in the S.A.M.E. Student Competition, then please sign below.

For questions, please contact: CSUS Mathematics Project Director, Debra K. Stetson at [stetson@csus.edu](mailto:stetson@csus.edu) or (916) 278-5951.

By signing this form, I am stating that I have read and understand that information above. I freely give my consent for my child's participation.

Typed Name of Student:	Typed Name of Teacher:
Typed Name of Parent or Guardian:	Date:
Parent or Guardian Digital Signature:	

## S.A.M.E. Student Competition Problem Prompt 2020: Sacramento Grocery Maps

When you Google search: "map of grocery stores in Sacramento", you can view red tags or pins where people can buy grocery items. On the following pages, Images A, B, and C are of different neighborhoods of the Sacramento Region.

### Respond to all of the following prompts:

What do you notice about the images? What do you wonder?

What mathematical claims can we make based on these images?

What social implications are there, based on your mathematical findings?

What can you infer about these neighborhoods based on the data provided?

Why would one neighborhood have fewer markets than the other?

How would this affect human lives?

Who could have the power to affect this?

You may use this guide to support your thinking: <http://bit.ly/2utascQ>

You may use this organizer to approach the problem strategically: <http://bit.ly/3btIoGP>

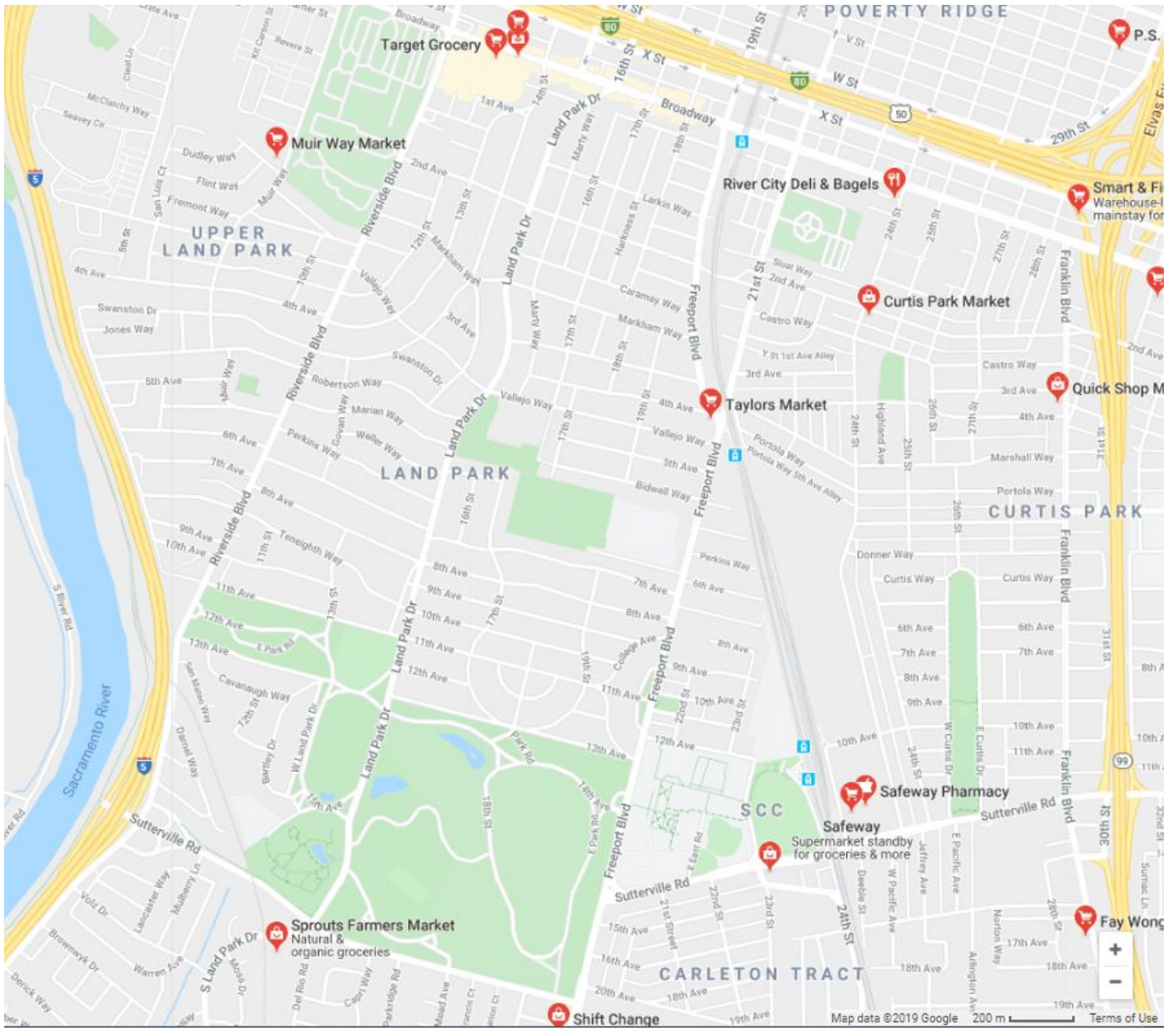
### Judging criteria which will be used to award points include:

1. Reasoning is fully explained and justified and in context
2. Both the solution method and answer are correct.
3. The explanation of the process used to determine the solution is complete and well documented—the explanation might include words, calculations, visuals, tables, graphs, diagrams, or any other material needed to fully communicate the process. There is a logical progression of ideas made to reach a conclusion. Thoughts and calculations are fully explained so the reader (or viewer) can understand the student thought process.

Email your solution to [Lfury@wpusd.org](mailto:Lfury@wpusd.org) by April 6, 2020 at 4:00pm.

**Notice:** When you send S.A.M.E. your work, it becomes property of S.A.M.E. with you cited as the creator. You also are agreeing to allow us to show your work to other teachers for the purposes of helping them learn strategies for teaching students like you in the future. Please have your parents sign and return the photo release form attached if you attend the S.A.M.E. conference.

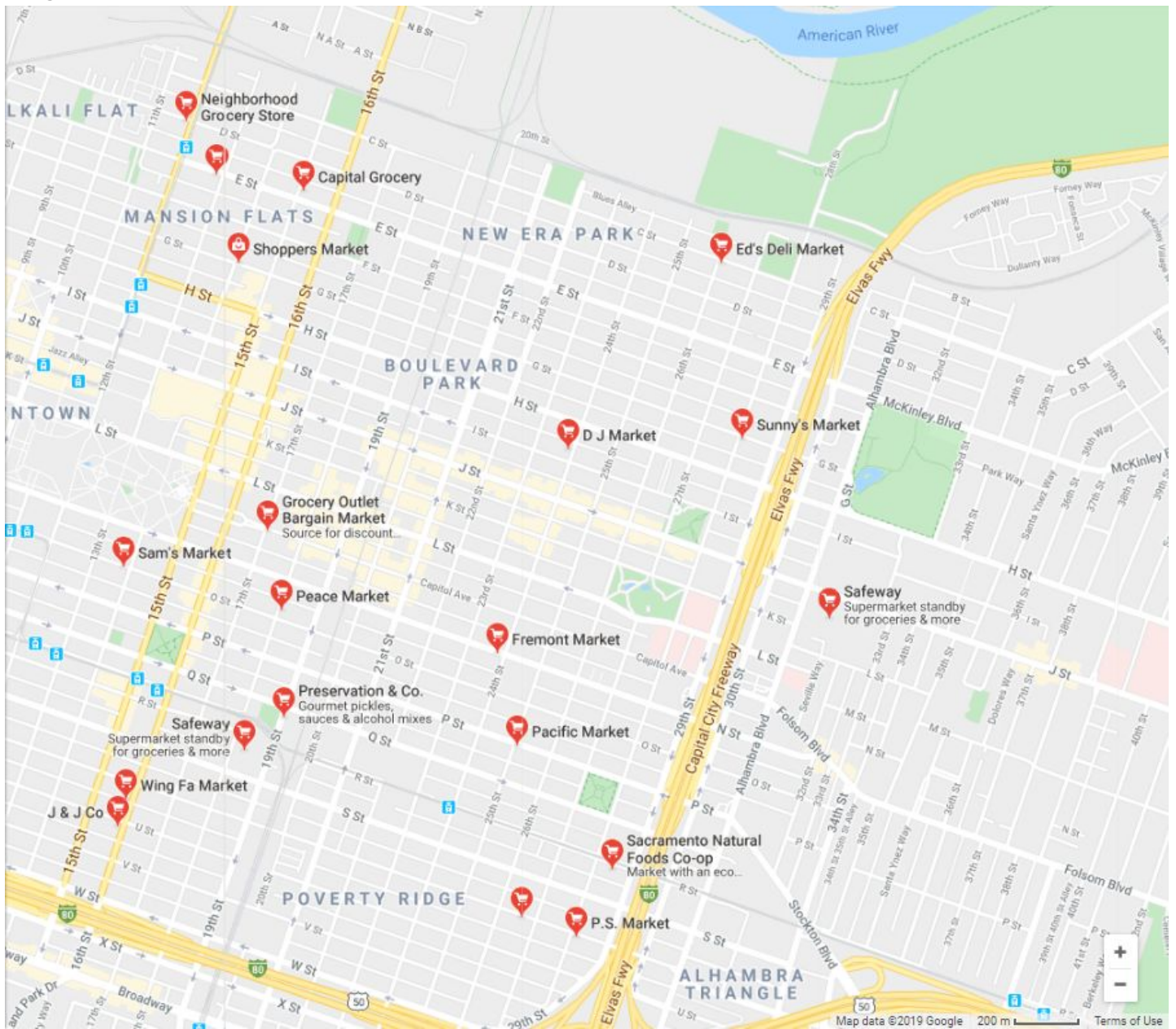
Image A:



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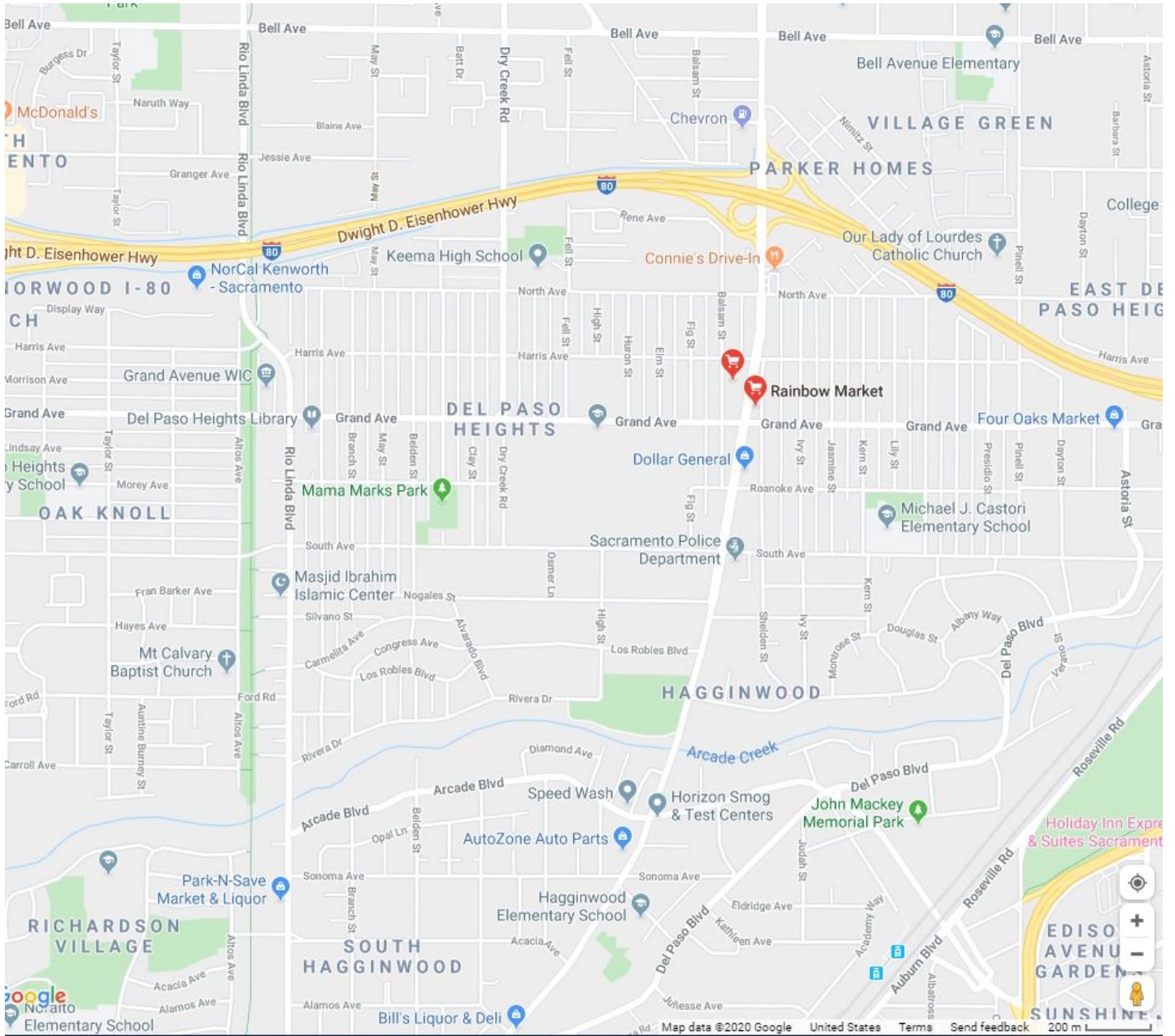


Image B:



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Image C:



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