

GOT A PROBLEM?

SIAM is Seeking Problem Ideas for National High School Math Modeling Competition

MathWorks Math Modeling (M3) Challenge is an Internet-based, applied mathematics contest for high school juniors and seniors. M3 takes place each year in March. Teams of 3–5 students are given 14 hours to solve an open-ended, applied math-modeling problem related to a real-world issue. Winners will receive college scholarships totaling \$100,000. Registration and participation are free.

The goal of the Challenge is to motivate students to study and pursue careers in STEM disciplines, especially applied mathematics, computational science, economics, and finance. The problem is revealed to the students only after they login on their selected Challenge day. Solutions are judged on the approach and methods used and the creativity displayed in problem solving and mathematical modeling.

Problem structure

Within the problem statement, there should be three questions for teams to answer:

- Question One: A warm up — every serious team can answer.
- Question Two: The guts — framed so that every team can have some success and many teams will cover it well.
- Question Three: The discriminator — many teams will do something, while only a few will have striking results.
- Data — data that is provided or easily found is desirable to encourage students to use coding and technical computing in solution papers.

Honoraria

- \$50 for problems found suitable to add to the M3 problem reserve “bank”
- \$500 for problems selected from the reserve bank to be used as “the” Challenge problem

Previous problem statements can be viewed at
m3challenge.siam.org/resources/sample-problems

To submit new ideas or get more information, contact:

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m3challenge.siam.org

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Required problem characteristics

- Accessibility to 11th and 12th graders
- Suitability for solution in 14 hours
- Possibility for significant mathematical modeling
- Topic of current interest involving interdisciplinary problem solving and critical thinking skills
- Availability of enough data for a variety of approaches and depth of solutions (but no easily found answers)
- References identified that will be helpful for getting students started
- Submitted problem idea in the format of previous Challenge problems

 MathWorks Math Modeling Challenge
A CONTEST FOR HIGH SCHOOL STUDENTS