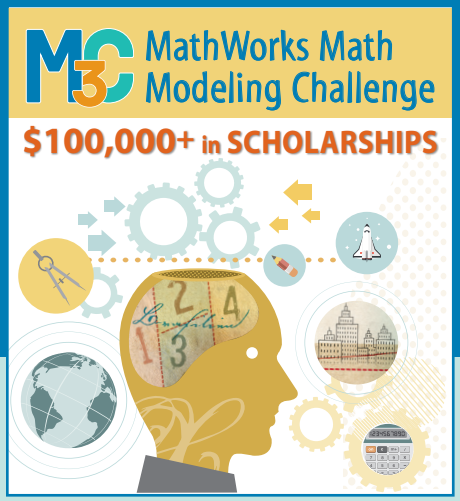
GOT A PROBLEM?

SIAM is Seeking Problem Ideas for Math Modeling Competition



MathWorks Math Modeling Challenge (M3 Challenge) is an Internet-based, applied mathematics contest. High school juniors and seniors in the U.S. and sixth form students (age 16-19) in England and Wales may form and enter up to two teams of three to five students each per school. M3 Challenge takes place each year in late February / early March. Teams are given 14 hours to solve an open-ended, applied math-modeling problem related to a real-world issue. Winners receive scholarship prizes totaling $100,000 (£75,000+). Registration and participation are free.

The goal of M3 Challenge is to motivate students to study and pursue careers in STEM disciplines, especially applied mathematics, computational science, data science, and technical computing. The problem is revealed to 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. Extra credit in the form of technical computing scholarship awards is available for teams who opt to submit code.

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 Challenge problem reserve "bank"
- $500 for problems selected from the reserve bank to be used as "the" Challenge problem

Required problem characteristics

- Accessibility to high school/sixth form students
- 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
- Potential to extend and enhance model using technical computing if a team chooses to do so.

Submit your ideas: *M3Challenge.siam.org/suggest-problems*

View previous problem statements:
M3Challenge.siam.org/resources/sample-problems

Contact SIAM for more information: m3challenge@siam.org

MathWorks Math Modeling Challenge
A program of siam
A CONTEST FOR HIGH SCHOOL STUDENTS
M3Challenge.siam.org

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Sponsored by MathWorks

The National Association of Secondary School Principals has placed this program on the NASSP National Advisory List of Student Contests and Activities since 2010.

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