Unsolved Problems in Mathematics Syllabus

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We will explore some of the more interesting unsolved problems in mathematics. Not only will we be going over the basic statement of each problem in the class but we will also tell you the riveting stories that are behind some of these problems. To supplement lecture we'll break out into problem sessions a few times each lecture. These problems are meant to gain familiarity with the unsolved problem. The course staff will assist as much as possible during these sessions and will go over the solutions afterward.

Here is a tentative list of the problems we plan on going over during class.

Day 1:
- Unsolved Problems Overview
- Millennium Problems
- Hilbert's 23 problems
- Fermat's last theorem

Day 2:
- Landau's problems
- Twin Prime conjecture
- Goldbach's conjecture
- Legendre's conjecture
- Near-square primes

Day 3:
- Brocard's problem
- Collatz conjecture
- Odd perfect numbers

Day 4: P vs. NP

Day 5: Riemann hypothesis