California State University
Northridge

Department of
Mathematics

Problem of the Week

Proposed by Bernardo Ábrego and Silvia Fernández. **May 9-16**

A real number x between 0 and 1 is chosen uniformly at random. If $\sqrt{x}$ is written as a decimal in base 10, what is the probability that its first non-zero digit is equal to 3?

Deadline: May 16, 2005 before 9:00 PM.
This is the last problem of the semester. The first problem of next semester will appear August 29th. Look for the "Problem of the Week" in the Daily Sundial (Daily Spotlight section) or in our web site **www.csun.edu/math/probweek**

Rules:

1. Open to all enrolled undergraduate and graduate CSUN students.
2. The first complete and correct solution will be awarded a diploma and the choice of a "Brain Benders Puzzle" or a five dollar prize.
3. The winner solution and the names of the authors of all correct solutions will be published in our web site (**www.csun.edu/math/probweek**). All authors whose solutions are complete and correct will receive certificates.
4. All solutions must be typed and sent electronically. PDF, Latex, or Word files are preferred.
5. All steps of the solution must be clearly justified.
6. Email your solution with subject "Problem of the week" to

   Bernardo.Abrego@csun.edu

7. Late solutions will not be considered.
8. For any questions contact the organizers

   Bernardo.Abrego@csun.edu, Silvia.Fernandez@csun.edu