

Problem of the Week.

September 13-20

Proposed by Bernardo Ábrego and Silvia Fernández.

30 ants are located at random on top of a narrow wooden stick measuring 12 inches long. Each ant starts walking, either left-bound or right-bound, at a speed of 2 inches per second (each ant's direction is chosen at random). Whenever two ants collide they immediately change directions while maintaining their speed. When an ant reaches either end of the stick, it falls off it. If all 30 ants start walking at the same time, prove that none of the ants remains on the stick after 6 seconds.

Deadline: September 20, 2004 before 9:00 PM.

Next problem of the week: Available in our web site on September 20 at 2:00 PM.

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" wood puzzles set 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

If you like puzzles and challenging problems ... join the Mathematics Department Problem Solving Workshop. We meet every Friday at 2:00 PM in FOB room 108. For more information visit our web site: www.csun.edu/math/workshop.