Problem of the Week.   May 3-10

Proposed by Bernardo Ábrego and Silvia Fernández.

In an election, two candidates, Carlos and Luis, have in a ballot box 10 and 5 votes respectively. If ballots are randomly drawn and tallied one at a time, what is the probability that Carlos is ahead after each one of the 15 ballots is tallied?

For example, if the ballots are drawn in the order CCLCLLCLLCCCCCC then after the 6th ballot is tallied Carlos and Luis are tied with 3 votes each, so Carlos is not always ahead. However in the order CCLCCLLCLCCCLCC Carlos is always ahead (Carlos-Luis: 1-0, 2-0, 2-1, 3-1, 4-1, 4-2, 4-3, 5-3, 5-4, 6-4, 7-4, 8-4, 8-5, 9-5, 10-5).

Deadline: May 10, 2004 before 9:00 PM.
Next problem of the week: Available in our web site on May 10 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 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   or   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.