California State University
Northridge

Department of
Mathematics

Problem of the Week

Proposed by Bernardo Ábrego and Silvia Fernández. **October 11-18**

Find explicit formulas for all functions f, from the positive integers to the real numbers, such that

$$f(n) + f(m) = f(n) f(m) + f(n+m)$$

for all positive integers n and m.

Deadline: October 18, 2004 before 9:00 PM.
Look for the "Problem of the Week" every Monday 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 magnetic building 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.