Problem of the Week.   September 6-13

Proposed by Bernardo Ábrego and Silvia Fernández.

Suppose $A = \begin{pmatrix} a & b \\ c & d \end{pmatrix}$ is a matrix with a, b, c, d real numbers and $A^3 = \begin{pmatrix} 6 & 2 \\ 7 & 1 \end{pmatrix}$.
Find a, b, c, d.

Note: A^3 represents the **matrix multiplication** of A with itself three times.

Deadline: September 13, 2004 before 9:00 PM.
Next problem of the week: Available in our web site on September 13 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 the book "Gauss: Titan of Science" by G. W. Dunnington 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.