Mathematics Competition

$25 prize for the best solution for each of 5 problems.
$100 prize for solving the most problems throughout the semester.

Problem #1 of five - January 25 to Feb 8, 2013

1) When I sum five integers (some of these might be negative) in every possible pair combination, I obtain the values: $0, 1, 2, 4, 7, 8, 9, 10, 11,$ and 12. What are the original 5 integers?

2) Is it possible to find a set of five integers as above which results in the pairwise sums 1 through 10? Find an example or prove it impossible.

Direct any questions to Kamlesh Parwani, OM 3351, or Keith Wolcott, OM 3341

Rules and Awards

- Any undergraduate currently enrolled at EIU is eligible to participate.

- Each solution is to be the work of one individual and is to be submitted with the solver's name, year in school, email address, local address and home address.

- Each solution is to be written or typed and is due in the main Mathematics Department office (OM3611) by 2:00 p. m., Friday, Feb 8.

- Entries will be graded on the basis of clarity of exposition and elegance of solution.

- An award of $25 will be given for the best solution for each of the 5 semester problems. In case no award is made, the prize will be added to the next week's award. In the case of a two-way tie, the award will be split. If there are more than two 'best' solutions, a system of drawings will determine the winners.

- **$100 prize** for solving the most problems throughout the semester.

- **Challenges, solutions, names of all solvers, and comments will be posted on the Challenge of the Week homepage:**

  `http://www.eiu.edu/math/challenge.php`