

Mathematics Competition

\$25 prize for the best solution for each of 5 problems.

\$100 prize for solving the most problems throughout the semester.

Problem #2 of five - Sept 14 to Sept 28, 2012

First take the product of two consecutive integers and then add two zeros at the end (for instance, the product of 11 and 12 is 132 and then adding the zeros at the end results in 13,200). Now, is it always possible to find a two-digit integer that you can add to this number and get a perfect square? Prove or disprove.

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, Sept 28.
- 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>