

# 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 - February 8 to Feb 22, 2013*

Answer both of the following questions.

1) Two boats on the opposite shores of a river start moving towards each other. When they pass each other they are 750 yards from one shoreline. They each continue to the opposite shore, immediately turn around and start back. When they meet again they are 250 yards from the other shoreline. Each boat maintains a constant speed throughout. How wide is the river?

2) Two people stand back to back next to the rails in a small railway station. As the head of the express train that passes the station reaches them, they start to walk parallel to the rails. As the tail of the train reaches each of them, they stop, having walked 30m and 40m respectively. If they both walked with identical, constant speed and the train kept its speed as well, can you tell how long the train was?

*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 22.
- 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>