

Mathematics Competition

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

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

Problem #4 of five - March 22 to April 5, 2013

These are April Fools problems which are intended to be surprising in some way. Solve as many as you can.

Problem 1. Five students have first names Clark, Donald, Jack, Robin and Steve, and have last names (in a different order) Clarkson, Donaldson, Jackson, Robinson and Stevenson. It is known that Clark is 1 year older than Clarkson, Donald is 2 years older than Donaldson, Jack is 3 years older than Jackson, and Robin is 4 years older than Robinson. Who is older, Steve or Stevenson and what is the difference in their ages? Explain.

Problem 2. A circular clock hanging on a wall has a minute hand which is pointed directly up at all times and a moving hour hand. Nevertheless, the clock shows the correct time at each moment. How could this be and which direction does the hour hand move, clockwise or counterclockwise? Explain.

Problem 3. The sum of five numbers (not necessarily integers) equals 100. The average of the first and the last number is the same as the average of the three numbers in the middle. What is this average? Explain.

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, April 5.
- 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>