

Math Competition

Problem #1: February 23, 2015 to March 6, 2015

Ten book club members meet at a bookstore, each with the idea of purchasing a copy of the book they plan to read for next month's book discussion. Even though everyone has money, no one member has enough to purchase the book—one is short by one dollar, a second by two, a third by three, and so forth. Since everyone wants a copy of the book and no one person can afford to purchase a copy on their own, they decide to pool their money to purchase as many copies as their combined resources will allow. How many club members can be assured of receiving a copy?

Provide a justification for your answer.

*Direct any questions to
Gregory Galperin, OM 3361*

Rules & Rewards

- 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 (OM 3611) by 2:00pm, Friday, March 6, 2015.
- Entries will be judged on the basis of clarity of exposition and elegance of the solution. That is to say, the *explanation* is more important than the answer.
- An award of \$25 will be given for the best solution. In the case of a two-way tie, the award will be evenly split. If there are more than two 'best' solutions, a drawing will be held for the reward. In the case no award is made for this week's challenge, \$25 will be added to the next week's award.
- Names of all solvers will be posted on the Challenge of the Week bulletin board and on the Challenge of the week homepage: <http://www.eiu.edu/math/challenge.php>