University Math Challenge

February 2, 2026 to February 27, 2026

PROBLEM # 1

(1) Suppose A, B, C, D and E are five positive integers which add up to 1000. If all five numbers are strictly less than 225, explain why all five numbers are strictly larger than 100.

(2) If all five numbers are strictly larger than 100, what is the largest any of the numbers can be? Explain your answer.

(3) If all five numbers are strictly larger than 100 **and** strictly less than 225, what are the smallest and largest possible values for the median (third largest out of the five when ordered numerically) of the three numbers? Explain your answer.

Direct any questions to
Grant Lakeland (OM 3226)

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, February 27, 2026.
- 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 $50 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, $50 will be added to the next week's award.
- Names of all solvers will be posted on the Challenge of the Month bulletin board and on the Challenge homepage: `http://www.eiu.edu/math/challenge.php`