Challenge of the Week

Challenge of the Week # 7 - October 16 to October 23, 2009

Some number of different golden coins are put on the left pan of a balance, and some number of coins (which are all identical) are put on the right pan. Each coin on the right side has a larger diameter than any coin on the left pan, but the thickness of all the coins is the same. The balance is in equilibrium. Then each coin is replaced with a solid ball of the same diameter as the respective coin. All coins and all spheres are made of the same material.
Will the balance be in equilibrium after that replacement? If not, which side will be heavier? Justify your answer.

Direct any questions concerning this week's challenge to 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, October 23.
- Entries will be graded on the basis of clarity of exposition and elegance of solution.
- An award of $20 will be given for the best solution. In the case of a two-way tie, the award will be split. If there are more than two 'best' solutions, a drawing will be held for the award. In case no award is made for this week's challenge, $20 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.ux1.eiu.edu/~dmbroline/chalweek/index.html