

## Problem of the Week #20

Assigned: 03 March 2011, 1300

Due: 10 March 2011, 1300

### More Marbles

MAJ Sulewski decides to use the following game to assign MA206 grades to his students. He gives each student two jars: one with 50 red marbles and the other with 50 blue marbles. The student can rearrange the 100 marbles among the two jars however he/she wishes, but cannot leave any marbles out. Once the marbles are arranged by the student, MAJ Sulewski picks one of the two jars at random, shakes it (to thoroughly mix the marbles), and allows the student to pick one marble without looking into the jar. If the student picks a blue marble, the student passes the course. If the student picks a red marble, the student fails and must retake MA206 in STAP.

What is the probability that a student who deserves to pass ends up retaking the course in STAP?

Email solutions to [Christopher.marks@usma.edu](mailto:Christopher.marks@usma.edu) with subject line: POTW.

Solutions can be emailed in the form of: an email (plain text) no attachment, a word document, a mathematica file, an excel workbook, or a scanned adobe file of your work.

If none of these options work for you, you may drop a hardcopy off at my office TH239C, just annotate the time of submission.