

Mizzou AMS Student Chapter

Problem of the Week

Week 2

A Missionary's Dilemma

A captured missionary is presented with two bowls. One bowl has 50 white beads, the other has 50 black beads. The missionary is asked to put some beads from the first bowl into the second, then some from the second back into the first. He is blindfolded, and his captors stir the contents of the two bowls, and then move the bowls around. He is then asked to select a bowl, and a single bead from that bowl. White sets him free, black means he stays captive. Can he switch the beads to give himself a better than 50% chance of freedom? *You must justify your answer.*

Due by noon on Friday, February 3.

