

Math 180 Homework #10
Due Friday, December 6

1. Consider the weighted voting system $[15; 12, 7, 2, 1]$
 - (a) What are the Shapley-Shubik indices for each voter?
 - (b) What are the winning coalitions?
 - (c) What are the Banzhaf indices for each voter?
2. Recall that two weighted voting systems are equivalent if they have the same winning coalitions.
 - (a) Carefully argue that the voters of two equivalent weighted voting systems will have the same Banzhaf indices (that is, the voters with the highest weights will have the same Banzhaf indices, the voters with the second highest weights will have the same Banzhaf indices, ...).
 - (b) Carefully argue that the voters of two equivalent weighted voting systems will have the same Shapley-Shubik indices.