Public Policy 529
Sample Significance Test Questions

1. In a sample of 96 democracies, the Human Development Index (HDI) score has mean .687 and s=.179. By contrast, in a sample of 58 non-democracies, the HDI has a mean of .556 and s=.167. Test the null hypothesis that these means are the same (α=.05).

2. Among countries that are landlocked, 17 out of 39 are democracies. Among countries that are not landlocked, 76 out of 136 are democracies. Perform a significance test for whether there is a statistical relationship between being landlocked and being a democracy ($\alpha = .1$).

3. In a sample of 18 Middle Eastern countries, mean life expectancy for women is 74.9 years with a standard deviation of 8.4. Can we reject the null hypothesis that mean life expectancy is 70 years ($\alpha = .05$)?

4. In a sample of 18 Middle Eastern countries, 2 were democracies in the year 2011. Can we reject the null hypothesis that the true proportion of democracies is .222 ($\alpha = .05$)?

5. A teacher wants to test whether the mean score on state tests for her students was different than the mean for all other students in the school district. For her students, the mean score was 355 (s=30; n=22). For all the other students in the district, the mean score was 342 (s=35; n=670).