

## Homework 8 (Due Friday, March 11, 2016)

**Section 8.5:** #4, #6, #7.

**Supplementary Exercises (Section 8.9):** #11, #13, #22

**Section 9.1:** #3, #5, #19.

### **Additional Problem:**

Let  $X_1, \dots, X_n$  be a random sample from a normal distribution with mean  $\mu$  and variance  $\sigma^2$ . Derive the level  $\alpha$  likelihood ratio test for  $H_0 : \mu = \mu_0$  vs.  $H_1 : \mu \neq \mu_0$ .