**Solutions to Handout #4**

1. , s2=16 and n=25. CI:

, df=24

1. nX=8, sX2=81, nY=13, sY2=15.

(computed using excel, the first one used the command==F.INV(0.95,7,12))

1. Syou2=629.1, Ssis2=265.87.

1. & 5. Done in class
2. and , n=10, so

, df=9

1. T=, X,Y,Z,W i.i.d. N(0,σ2). Then is N(0,1) and is Chi=square df=2. Thus, has a T- distribution with df=2. So, .
2. 95th percentile, . We know that has an F(6,9) distribution. Now we are looking for a number c such that P(U<c)=.95

This means that 9c/6 is the 95th percentile of the F(6,9) distribution, which equals 3.37.

, so c=6(3.37)/9.

Problems 9, 10, 11 were done in class.