**Practice with one and two sample proportion confidence intervals**

1. In a study of human blood types in nonhuman primates, a sample of 71 orangutans was tested and 14 were found to be blood type B.

a. Construct a 95% confidence interval for the relative frequency (proportion) of blood type B in the orangutan population. Show all work

b. Interpret the interval you just computed in part (a).

c. The researcher wants to reduce the margin of error to .045, how large a sample would he need?

2. Experimental studies of cancer often use strains of animals that have a naturally high incidence of tumors. In one such experiment, tumor prone mice were kept in a sterile environment with one group of mice maintained entirely germ free and the other group of mice exposed to the intestinal bacterium Eschericbia coli.The accompanying table shows the incidence of liver tumors.

Treatment Total Number of Mice Mice with Liver Tumors

Germ Free 49 19

E. coli 13 8

Let p1 and p2 represent the probabilities of liver tumors under the germ-free and the E. coli conditions, respectively.

a. Construct a 95% confidence interval for (p1 – p2)

b. Interpret the confidence interval from part (a). That is, explain what the interval tells you about tumor probabilities.