**AP Statistics Name:
Special Problem 8 (S-2016)**

**Directions**: Complete the following problems as you would on the AP Exam. Show all your work. Indicate clearly the methods you use, because you will be graded on the correctness of your methods as well as on the accuracy and completeness of your results and explanations. This is an individual effort.

**Problem 1**. The U.S. Forest Service is considering additional restrictions on the number of vehicles allowed to enter Yellowstone National Park. To assess public reaction, the service asks a random sample of 150 visitors if they favor the proposal. Of these, 89 say “Yes.”

(a) Construct and interpret a 99% confidence interval for the proportion of all visitors to Yellowstone who favor the restrictions. Use the (vaunted) 4-Step Process.

(b) Based on your work in part (a), can the U.S. Forest Service conclude that more than half of the visitors to Yellowstone National Park favor the proposal? Justify your answer.

**Problem 2**. Hyena Milk Company monitors the number of bacteria per milliliter in raw milk received at its factory. A random sample of 10 one-milliliter specimens of milk supplied by one producer gives the following results:

5370 4890 5100 4500 5260 5150 4900 4760 4700 4870

Construct and interpret a 90% confidence interval for the population mean μ. Again, use the 4-Step Process.