Question#1. Suppose sample mean = 7.265, s = 7.16, based on n = 4. Find the P-value and the 95% Confidence Interval

s/√n = 3.58

7.265-0/3.58 = 2.03

**P-value: .138 (14%) – 14% likelihood that test stat is what the given null**

**95% - ­3.58 \* 3.182 = 11.39 ( 4.125 ,18.66)**

* **P > 5%**
  + **Rejects out null**

Question #2: Can dogs smell bladder cancer? (*British Medical Journal, 2004*)

Each trial, one bladder cancer urine sample is placed among six control urine samples. In 54 trials, dogs made correct selection 22 times. Do dogs make the correct selection better than with random guessing? Assess a 5 percent significance level.

Question # 3: Which would you prefer – raise taxes or reduce services? Of 1200 Floridians that were surveyed with this question, 52% said raise taxes, 48% said reduce services. What can the governor conclude? How do we pose the problem? Are a majority in favor of raising taxes? Frame and assess your hypothesis using a one-sided, upper tail test. Use a alpha level of 0.05 and provide your conclusions.

Question # 4: One of the questions in a statistics exam is a multiple-choice question, with 4 choices. Four hundred students took the exam. One hundred and twenty-five students correctly answered this question. Test whether the probability of students correctly answering this question is higher than what you would expect if the students were randomly guessing the answer.

Set up the appropriate hypotheses and find the P-value.