AP Statistics – Summer Thinking Assignment

Name: _____

Directions: Take some time to think about each question / prompt and on a separate sheet of paper BRAINSTORM! Don't be afraid to draw diagrams, such as flowcharts or Venn diagrams. Then respond to each prompt in the space provided below. (You may attach addendums to this paper.) This assignment is to be submitted the first class period.

1. A researcher believes a particular species of predatory fish prefers one prey fish over another. Design an experiment to test the researcher's hypothesis.

2. A company that makes tennis rackets has made a claim that their newest racket will help return more serves than any other racket on the market.
    a. A group of tennis players has volunteered to help test this claim. Design an experiment that will allow this claim to be tested.

    b. Suppose the group of volunteers were made up of approximately 50% men and 50% women. Would this change your design? If so, how?

3. A U.S. Congressman wants to know if he should consider running for office again. He decides to mail questionnaires to a simple random sample of his constituents, asking their opinions of his ability to be elected again. Explain any problems you see with this study.

4. The pharmaceutical company Pfizer has developed a drug to treat male pattern baldness. (The company hopes that the drug will effectively re-grow hair, but expects the drug will at the very least halt further loss of hair.) Design an experimental trial to test the effectiveness of the drug. In your opinion, what proportion (or percentage) of positive results should Pfizer require before accepting the drug for production?