In statistical analysis, data is collected from a specific population called the "target population." Sometimes the entire target population can be studied (for example, studying the opinions of MGF 1106 students at CJC). However, sometimes the target population is too large (for example, studying the opinions of the citizens of the United States). Contacting every person or checking every item would be too costly and time consuming. Therefore, a sample population is chosen.

To ensure that the sample population is representative of the target population and yet unbiased it must satisfy three requirements:

1. The sample must be selected only from the target population.
2. Each member of the population must have an equal chance of being selected.
3. A random selection method must be used.

The following are examples of commonly used techniques in selecting a representative and unbiased sample:

1. Random sampling
2. Systematic sampling
3. Cluster sampling
4. Stratified sampling
5. Convenience sampling

For each situation below, determine what type of sampling has been used.

1. A survey was administered to 50 freshmen and 50 sophomores at Chipola College.

2. In order to determine which candidate is leading in a mayoral race in a certain city, the election team call the 25th name on each page of the phone book and asks their voting preference.

3. An alphabetical list of Chipola students was printed and each student was assigned an index number. A list of random numbers was then generated by a computer and the students with matching index numbers were surveyed.

In each example below, suggest improvements that would make the sampling method used more reliable.

4. A questionnaire is written to learn more about drug use among college students. The questionnaire is placed in the college library for students to complete.

5. A newspaper wants to find out which of their editorials are read. They choose the first one hundred subscribers in an alphabetical listing of subscribers.

6. Chipola College is planning to build new parking lots and wants to determine the best location. They use a computer to generate a random list of 100 sophomores and 100 freshmen addresses and mail a response survey to these students.
Once data is collected, it can be presented in graphical form, or analyzed using statistical tools. However, the presentation in graphical form should still be "unbiased".

Look at the following graphs representing the cost of a TI 83 graphing calculator and determine if a "bias" exists.

Consider these graphs of the stock values of Finite, Inc. during the first six months of 1998 and determine if a "bias" exists.

HW: Read Section 13.1 and work problems 15 – 21 odd and the CLAST worksheet attached.

Then read section 13.2

Note: Section 13.2 will be a "read only" section.