



## SAMPLING DATA WORKSHEET #1

### ➤ **Observational Study or Experiment?**

1. Discuss whether the following are experiments or observational studies and explain why.
  - (a) An Algebra 2 instructor announces a study session to be held the night before a test. The instructor lists the students who attended the session and compares their scores to the remaining Algebra 2 students' scores.
  
  
  
  
  
  
  
  
  
  
  - (b) To determine whether a review session will improve his students' test scores, an Algebra 2 instructor divides his class into two groups. He then requires one group to attend a study session and compares the test results of each group.

### ➤ **Population and Sample, Parameter and Statistic**

2. You are interested in the proportion of Algebra 2 students that will end up with an A this semester. Identify the
  - (a) population:
  - (b) individual:
  - (c) variable:
  
3. The mean income of all subscribers to a particular magazine is **\$26,000**. We draw a random sample of 100 subscribers and find that their mean income is **\$27,300**. Identify the
  - (a) population:
  - (b) sample:
  - (c) parameter:
  - (d) statistic:
  
4. The average GPA for all female volleyball players in a particular college is **2.8**, and their mean height is **182cm**. Identify the parameter or statistic if there is any.

➤ **Types of Sampling**

5. Which sampling method was utilized? Why?

(a) Student organization looking to get signatures for a petition camp out in front of Class of 1950 Lecture Hall.

(b) Select three students from a class to receive ice cream by putting all the students' names in a hat and picking out three names randomly.

(c) Select three female students and three male students to receive ice cream by putting all the men's names in one hat and all the women's names in a different hat and picking out three names from each hat.

(d) In Fall 1995, the BBC in Britain requested viewers to call the network and indicate their favorite poem.

(e) Divide the class into four groups (freshman, sophomore, junior and senior) and take a random sample of two students from each group.

(f) Priceline.com randomly e-mails a Customer Satisfaction Survey for certain transactions done on its site in which customers choose to either respond or not.

6. Discuss how you would take a random sample of 8 students from 81 students in a large college class. Use the random number table below and be specific on how you would choose your sample.

73944    04773    12032    51414    82384    63517