Section 13.1 - CLAST WORKSHEET: The selection of an unbiased sample is the key to producing a reliable statistical study. The sample must be selected only from the target population. It must be representative of the target population and randomly selected. Select the correct response to the following sampling situations.

1. A certain college wishes to evaluate its athletic program. Which of the following procedures would be most appropriate for obtaining a statistically unbiased sample of the student body?
   a) Randomly survey students attending a basketball game.
   b) Randomly select students from a computer printout of the current enrollment.
   c) Place forms in the library to fill out and return to the athletic department.
   d) Randomly survey students as they enter the cafeteria.

2. A city council wants to obtain the opinion of its citizens about the operation of its fire department. Which of the following procedures would be most appropriate for selecting a statistically unbiased sample?
   a) Survey all residents of the largest subdivision in the city.
   b) Select representative clusters in the city and then survey all the residents of a given cluster.
   c) Survey a random sample of people on a downtown street corner.
   d) Randomly select names from the local telephone directory.

3. A large corporation is concerned about the working environment of its employees. The corporation decides to make a survey. Which of the following procedures would be most appropriate for selecting a statistically unbiased sample?
   a) Survey a random sample of people as they come to the water cooler for a drink of water.
   b) Hand out forms to all employees and then ask them to mail them in.
   c) Contact the first fifty names from an alphabetical listing of employees.
   d) Divide the population into relatively homogeneous sub-sets. Randomly interview employees in each sub-set. Weight the sub-sets according to the entire population of employees.

4. A college is interested in finding out about the working status of its female students. Which of the following procedures would be most appropriate for selecting a statistically unbiased sample of the female population of the college?
   a) Randomly survey students going in and out of the women’s locker room at the gymnasium.
   b) Randomly select names that are obviously female from a student directory.
   c) Obtain a computer printout of the enrollment that lists sex (M/F). Randomly select from these students.
   d) Place surveys in the library with a note that only female students are to respond.

5. The Chamber of Commerce of a city wants to determine if its residents favor having an outdoor arts and crafts show as an annual event. The chamber decides to conduct a survey. Which of the following procedures would be most appropriate for selecting a statistically unbiased sample?
   a) Randomly select geographic regions of the city and then survey a random sample of people in those regions.
   b) Survey people leaving a large wholesale crafts store.
   c) Survey arts students at the local art school.
   d) Place an ad in the local paper and ask people to mail in their opinion.

6. A high school principal is considering a pilot program combining mathematics and science as one course. She wishes to survey students to determine if they would be interested in a course of this type. Which of the following procedures would be most appropriate for selecting a statistically unbiased sample?
   a) Survey the faculty.
   b) Send letters to the parents for their opinion.
   c) Randomly survey employees of technical firms in the city.
   d) Randomly survey all students who attend this school.

ANSWERS: b, b, d, c, a, d