

Elementary Statistics: Picturing the World

Section 1.3

- 1. Decide which method of data collection you would use to collect data for the study (observational study, experiment, simulation, or survey):**
 - a) A study of the salaries of college professors in a particular state
 - b) A study where a political pollster wishes to determine if his candidate is leading in the polls
 - c) A study where you would like to determine the chance getting three girls in a family of three children
 - d) A study of the effects of a fertilizer on a soybean crop
 - e) A study of the effect of koalas on Florida ecosystem

- 2. Identify the sampling technique used (random, cluster, stratified, convenience, systematic):**
 - a) Every fifth person boarding a plane is searched thoroughly.
 - b) At a local community College, five math classes are randomly selected out of 20 and all of the students from each class are interviewed.
 - c) A researcher randomly selects and interviews fifty male and fifty female teachers.
 - d) A researcher for an airline interviews all of the passengers on five randomly selected flights.
 - e) Based on 12,500 responses from 42,000 surveys sent to its alumni, a major university estimated that the annual salary of its alumni was 92,500.
 - f) A community college student interviews everyone in a biology class to determine the percentage of students that own a car.
 - g) A market researcher randomly selects 200 drivers under 35 years of age and 100 drivers over 35 years of age.
 - h) All of the teachers from 85 randomly selected nation's middle schools were interviewed.
 - i) To avoid working late, the quality control manager inspects the last 10 items produced that day.
 - j) The names of 70 contestants are written on 70 cards, the cards are placed in a bag, and three names are picked from the bag.

- 3. Explain what bias there is in a study done entirely online.**

- 4. A local newspaper ran a survey by asking, "Do you support the development of a weapon that could kill millions of innocent people?" Determine whether the survey questions is biased and why.**