

EXERCISES

1. A local television station takes quick polls of public opinion by announcing a question on the 6 o'clock news and asking viewers to call-in or text their opinion of "Yes" or "No" to the station. The results are announced on the 11 o'clock news. One such poll finds that 73% of those who called in or texted are opposed to a proposed local gun control ordinance.

- a. What do you think the population is in this situation?
- b. Explain why this sampling method is biased. Is the percent of the population who oppose gun control probably higher or lower than the 73% of the sample who are opposed?

2. The students named below are enrolled in a new statistics course. Use a random digits table (such as Table B in *The Basic Practice of Statistics*) at line 136 or a calculator/computer random number generator to choose five of these students at random to be interviewed in detail about the quality of the course. Explain how you chose your sample.

Agarwal	Dewald	Hixson	Puri
Anderson	Fernandez	Klassen	Rodriguez
Baxter	Frank	Mihalko	Rubin
Bowman	Fuhrmann	Moser	Santiago
Bruvold	Goel	Naber	Shen
Casella	Gupta	Petrucelli	Shyr
Cordero	Hicks	Pliego	Sundheim

3. On the Hudson Valley, NY *Patch* Facebook page, readers were asked to send in stories of awful Valentine's Day gifts. The following were selected:

- Leftover chocolate (and he had eaten one!)
- Flowers purchased the day BEFORE Valentine's because it was cheaper to buy them the day before
- A recycled card from an ex-boyfriend with an open box of chocolates

Readers were then asked to vote on the best "worst Valentine's Day gift ever" story.

- a. Describe the population.
 - b. Describe the sample.
 - c. Do you think the response to this poll is representative of the views of the residents of Hudson Valley, New York? Explain.
4. Identify the population and the sample in each of the following situations.
- a. A realtor is interested in the median selling price of homes in Worcester County, Massachusetts. She collects data on the selling prices of 50 homes.
 - b. A psychologist is concerned about the health of veterans who served in combat. She examines 25 veterans to assess whether or not they are showing signs of post-traumatic stress disorder (PTSD).
 - c. An educator asks 20 seniors from Eastern Connecticut State University whether or not they had taken an online course while at the university.