

## Chapter 2, Quiz 1, Form A

## Answer Key

1. Although we may get better information from a census, it is usually far too costly and time consuming to contact every member of the population. A large random sample will be nearly as good for far less cost.
2. A simple random sample is a sample that is selected from a population in a way that ensures that every different possible sample of the desired size has the same chance of being selected.

Note: It is important that students not only state that each person has the same chance of being chosen, but also each possible sample of the desired size has the same chance of being chosen.

3.
  - a) Since there are 48 units in the population and we want a sample of size 12, we want to choose every fourth room after randomly choosing one of the first four rooms to start with. If we are using a random digit table, we would go through the table until we get a number from 1 to 4. Then, we would keep adding 4 to that number until we get to the end of the hotel rooms. For example, if we come upon the number 3 first, we would survey the 3rd room, the 7th room, the 11th room, etc.
  - b) Dear Maids, when you are placing the surveys in the rooms, please follow the following procedure. Starting at the northwest corner of building A and moving east, place a survey in the third room, the seventh room, and every fourth room thereafter, moving back and forth along the four rows of rooms.
4.
  - a) Bias is the tendency for a sample to differ from the corresponding population in some systematic way.
  - b) Non-response bias occurs when responses are not actually obtained from all individuals selected for the sample. With response bias, however, responses are obtained from the subjects, but the method of observation tends to produce values that systematically differ from the true population value in some way.