BST 5420

Homework #1

Due Tuesday February 12

1. (2 Points) Suppose that a population consists of 50 individuals, numbered 1 through 50. The following three samples represent (a) a simple random sample, (b) a stratified random sample, and (c) a cluster sample (but not necessarily in that order).   Note that each is a sample of size 15.

      Sample 1 = { 6, 7, 8, 9, 10, 31, 32, 33, 34, 35, 41, 42, 43, 44, 45 }

      Sample 2 = { 3, 4, 9, 11, 17, 19, 23, 25, 26, 31, 33, 38, 44, 45, 50 }

      Sample 3 = { 1, 3, 8, 9, 10, 18, 23, 26, 27, 29, 31, 32, 34, 38, 48 }

Which is which? (Hint: Find the ones that could be stratified and cluster samples, and the one left over is the SRS.

2. (2 Points) Do problem 10 of Chapter 2. "Which of the following SRS designs will give the most precision …"

3. (6 Points) Do problem 33 in Chapter 2 of the textbook. "*Online Bookstore:* The website amazon.com can be used …" Use a sample size of 10, rather than the 50 that the problem asks for in part c. Be creative in your choice of *genre*, but don't be too general.

      (a) Do part (a).

      (b) Do part (b)

      (c) Do part (c) but don't worry about the amount of time you spent collecting data.

      (d) Record just the price.

      (e) Do part (c).

      (f) Skip.

      (g) Do part (g).