

# **Classroom Quiz: Cluster Sampling**

## **Part A: Multiple Choice (Pick the best answer)**

1. In cluster sampling, clusters are usually:
  - a) Naturally occurring groups in the population
  - b) Equal-sized artificial groups created by the researcher
  - c) Always geographical areas only
  - d) Groups with identical characteristics
  
2. Which of the following is true about cluster sampling?
  - a) It is always more precise than simple random sampling
  - b) It is cheaper and easier when population is spread out
  - c) It requires the researcher to know the entire population list
  - d) It eliminates sampling error completely
  
3. Compared to stratified sampling, cluster sampling usually results in:
  - a) Lower sampling error
  - b) Higher sampling error
  - c) Exactly the same sampling error
  - d) No difference

## **Part B: Short Answer**

4. Give one real-world example of when you would use cluster sampling in a survey.
5. Explain in one sentence the difference between cluster and stratified sampling.

## **Part C: Problem-Solving**

6. A researcher wants to estimate the average household income in a city with 10,000 households. She divides the city into 200 clusters (each with 50 households). She randomly selects 20 clusters and surveys all households in them.
  - How many households are included in the sample?
  - What type of cluster sampling is this: one-stage or two-stage?
  
7. Suppose a country has 1,000 schools (each with 500 students). A researcher wants to survey students using two-stage cluster sampling:
  - Stage 1: Randomly select 50 schools.
  - Stage 2: From each selected school, randomly select 20 students.
  - What is the total sample size?
  - Why might two-stage sampling be preferred here instead of one-stage?