

Exercise walk-through

3.3

Random Sampling and Data Collection

AP Statistics

Random sampling

Let **chance**, not the researcher, choose – four random designs:

SRS : every group
of n equally likely

Stratified : SRS within sim-
ilar **strata**

Cluster : pick whole **clus-**
ters

Systematic : every k -th
individual



Sampling bias crowd

Random selection lets us **generalize** the sample
result to the whole population.

Exercises 2.1-2.3

2.1 State why random sampling helps.

[1]

2.2 Describe a simple random sample.

[1]

2.3 Name two other types of random sampling.

[2]

Exercises 2.1-2.3

2.1 State why random sampling helps. [1]

2.1

- it gives a representative sample and reduces bias
-

2.2 Describe a simple random sample. [1]

2.2

- a sample in which every possible group of that size is equally likely to be chosen
-

2.3 Name two other types of random sampling. [2]

2.3

- any two of: stratified, cluster, systematic

Exercises 3.1-3.2

3.1 Random sampling helps produce a _____ sample. [1]

☐

- A** biased
- B** representative
- C** small
- D** voluntary

3.2 Splitting a population into groups and randomly sampling within each is _____ sampling. [1]

☐

- A** cluster
- B** stratified
- C** systematic
- D** voluntary

Exercises 3.1-3.2

3.1 Random sampling helps produce a _____ sample. [1]

☐

- A biased
- B representative
- C small
- D voluntary

3.1 B

- representative.

3.2 Splitting a population into groups and randomly sampling within each is _____ sampling. [1]

☐

- A cluster
- B stratified
- C systematic
- D voluntary

3.2 B

- stratified.

Exercise 3.3 (a)

3.3 A school selects every 10th student on an alphabetical list.

(a) Name this sampling method.

[1]

Exercise 3.3 (a)

3.3 A school selects every 10th student on an alphabetical list.

(a) Name this sampling method.

[1]

(a)

- systematic sampling

Exercise 3.3 (b)

3.3 A school selects every 10th student on an alphabetical list.

(b) State one benefit of random sampling.

[1]

Exercise 3.3 (b)

3.3 A school selects every 10th student on an alphabetical list.

(b) State one benefit of random sampling.

[1]

(b)

- it reduces bias / gives a representative sample

Exercise 3.3 (c)

3.3 A school selects every 10th student on an alphabetical list.

(c) Name a method that samples whole groups.

[1]

Exercise 3.3 (c)

3.3 A school selects every 10th student on an alphabetical list.

(c) Name a method that samples whole groups.

[1]

(c)

- cluster sampling