

爱德思
Statistics 3
分类真题
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A Level Clouds 出品

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Chapter 1

Sampling

1. A tennis club's committee wishes to select a sample of 50 members to fill in a questionnaire about the club's facilities. The 300 members, of whom 180 are males, are listed in alphabetical order and numbered 1 – 300 in the club's membership book.

The club's committee decides to use a random number table to obtain its sample. The first three lines of the random number table used are given below.

319	952	241	343	278	811	394	165	008	413	063	179	749
722	962	334	461	267	114	806	992	414	837	837	657	339
470	684	554	127	067	459	142	920	144	575	311	605	412

Starting with the top left-hand corner (319) and working across, the committee selects 50 random numbers. The first 2 suitable numbers are 241 and 278. Numbers greater than 300 are ignored.

- (a) Find the next two suitable numbers.

(1)

When the club's committee looks at the members corresponding to their random numbers they find that only 1 female has been selected.

The committee does not want to be accused of being biased towards males so considers using a systematic sample instead.

- (b) (i) Explain clearly how the committee could take a systematic sample.

- (ii) Explain why a systematic sample may not give a sample that represents the proportion of males and females in the club.

(3)

The committee decides to use a stratified sample instead.

- (c) Describe how to choose members for the stratified sample.

(3)

- (d) Explain an advantage of using a stratified sample rather than a quota sample.

(1)

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