**Research**

Find out what other methods of sampling are used.

Find out how to generate random numbers from 1 to 100 in Excel.

**Memory**

List the advantages and disadvantages of taking a sample.

**Define**

Bias

Random Sample

Stratified Sample

**Stretch**

In an online survey 500 people are asked to flip a coin.

If they get heads they are told to answer “yes”.

If they get tails they are asked to answer truthfully the question “In the last year have you downloaded a movie illegally?”

In the survey 350 people answer “yes” and 150 answer “no”.

From these results estimate the proportion of people who had downloaded a movie illegally.

**Skills**

The table shows the numbers of guests staying at a holiday park during a certain week .

|  |  |  |
| --- | --- | --- |
| Age | Male | Female |
| 10-15 | 28 | 26 |
| 16-19 | 15 | 17 |
| 20-29 | 38 | 39 |
| 30- 44 | 45 | 43 |
| 45+ | 63 | 61 |

A sample of 50 guests is to be asked to answer a questionnaire at the end of their holiday. It is to be stratified by age and gender. How many from each strata should be chosen?

A scientist captures 200 ants from a colony and marks their abdomens with a dot. She returns the next day and captures another 200 ants. She finds that 8 of them have dots. Estimate how many ants are in the colony.