

S2. DATA

Definitions:

Population: the total group of individuals or items under consideration.

Sample: a group of individuals or items chosen from the population.

Data: the information collected from the sample or population.

Statistic: a number calculated from the sample data.

Parameter: a number calculated from the population data.

Types of data:

Data may be either *qualitative* (categorical) or *quantitative* (numerical)

- *Qualitative Data* (classified or labelled).
Data is put into non-numerical categories. Blood type, religion, cause of death, are all examples of qualitative data.
- *Quantitative Data* (counted or measured).
There are two types of quantitative data.
 - *Discrete Data:* data is put into categories depending on its counted number; for example, the number of children in a family.
 - *Continuous Data:* data is put into categories depending on its measured size; for example, height.

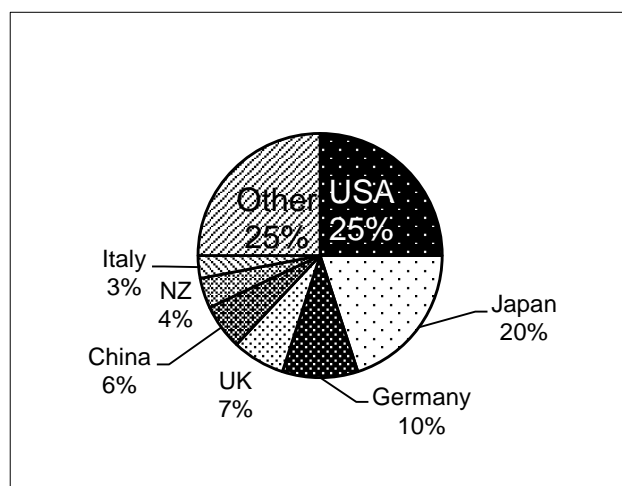
Graphical Representation

Qualitative/Categorical data is often represented by means of a bar chart or a pie chart.

Examples

1. *The table shows the percentage of imports from various countries. This data can be represented on a pie chart so that comparisons are easier:*

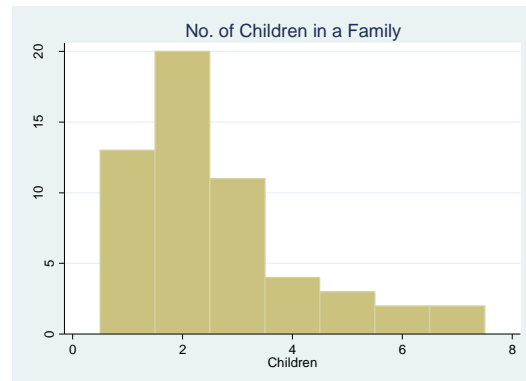
Country	Imports
USA	25
Japan	20
Germany	10
UK	7
China	6
New Zealand	4
Italy	3
Other	25



Quantitative/Numerical Data is often represented by means of a frequency bar chart called a histogram.

2. A group of school students were surveyed to find the number of children in their families. This data can be represented using a histogram.

<i>No. of Children</i>	Frequency
1	13
2	21
3	11
4	4
5	3
6	1
7	1
<i>Total</i>	54



Exercises

1. Label each of the following as either a categorical or numerical variable. For the numerical variables label each as either discrete or continuous.

- Hair colour
- A person's religion
- A person's height
- Number of children in a family
- The weights of babies born on a particular day
- The number of crimes committed in Victoria each week
- The distance travelled to work by the employees of a large company
- The make of car driven by students at RMIT

2. Represent the data in example 1 in a bar graph.

Answers

1.(a) Categorical

(b) Categorical

(c) Numerical – continuous

(d) Numerical – discrete

(e) Numerical – continuous

(f) Numerical – discrete

(g) Numerical – continuous

(h) Categorical

2.

