

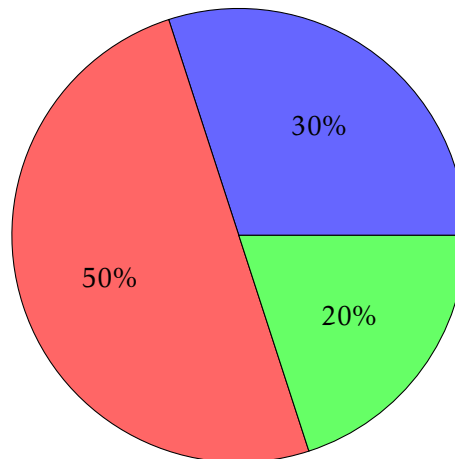
Single variable data representation

Fact —

- A variable is _____ if it is not possible for it to take a numerical value, eg
- A variable is _____ if it can take a numerical value, eg
- A quantitative variable which can take any value in a given range is _____
- A quantitative variable which has clear steps between its possible values is _____

Pie Charts

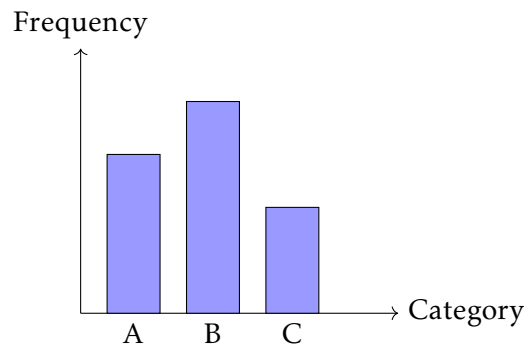
- Used for displaying parts of a whole
- Areas are proportional to the frequencies
- Sectors calculated using: _____
- Best used when: _____
- Limitations: _____



Bar Charts

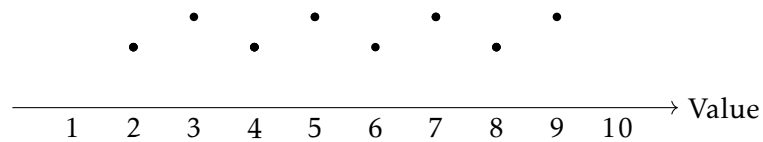
- Used for _____
- Height/length proportional to _____
- Types include:
 - Simple bar chart:
 - Multiple bar chart:
 - Component bar chart:
- Best used when: _____

- Limitations: _____



Dot Plots

- Each dot represents _____
- Stacked vertically when _____
- Best used when: _____
- Limitations: _____

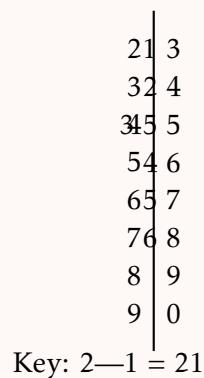


Stem-and-Leaf Diagrams

- Stem represents _____
- Leaf represents _____
- Key: _____
- Best used when: _____
- Limitations: _____

Example

Consider the following data: 23, 45, 67, 32, 54, 76, 43, 21, 65, 89, 90, 34, 56, 78, 45



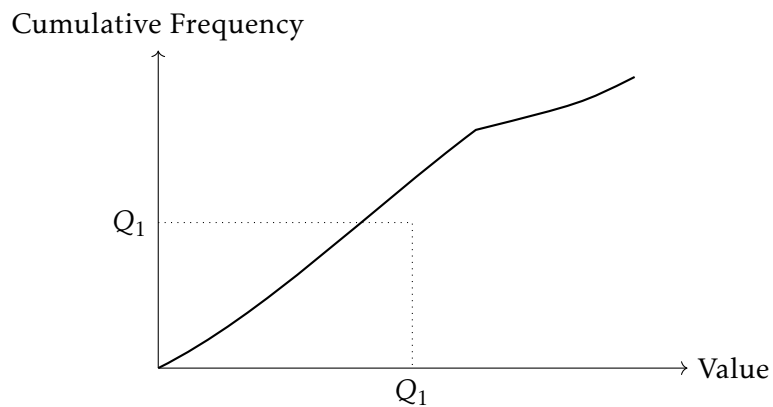
Box-and-Whisker Plots

- Five number summary:
 - Minimum: _____
 - Lower quartile: _____
 - Median: _____
 - Upper quartile: _____
 - Maximum: _____
- IQR = _____
- Outliers: _____



Cumulative Frequency Diagrams

- Shows running total of _____
- Plotted at _____ of class interval
- Used to find:
 - Median: _____
 - Quartiles: _____
 - Percentiles: _____



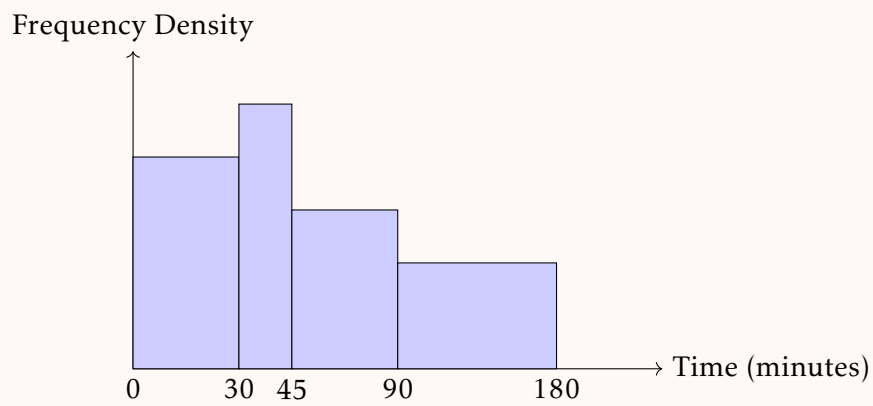
Histograms

- Area represents _____
- Height represents _____
- For unequal class widths:
 - Frequency density = _____
 - Area = _____

Example

The following data shows the time (in minutes) spent on social media by 50 students:

Time (minutes)	Frequency
0-30	8
30-45	12
45-90	15
90-120	10
120-180	5



(a) Calculate the frequency densities for each class

(b) Draw a histogram to represent this data

Choosing appropriate representations

Complete the following table:

Type of data	Discrete	Continuous	Categorical
Suitable representations			
When to use			