Section 2.1

Quantitative data are measures of values or counts and are expressed as numbers. {Numerical variables}

Examples: how many; how much; how often

Qualitative data are measures of 'types' and may be represented by a name, symbol, or a number code. {Categorical variables}

Examples: what type

$$\text{RELATIVE FREQUENCY} = \frac{FREQUENCY}{SUM\ OF\ ALL\ FREQUENCIES}$$

Relative Frequency

How often something happens divided by all outcomes.

Example: Your team has won 9 games from a total of 12 games played:

- the Frequency of winning is 9
- the Relative Frequency of winning is 9/12 = 75%

All the Relative Frequencies add up to 1 (except for any rounding error).

Example: Travel Survey

92 people were asked how they got to work:

- 35 used a car
- 42 took public transport
- 8 rode a bicycle
- 7 walked

The Relative Frequencies (to 2 decimal places) are:

- Car: 35/92 = **0.38**
- Public Transport: 42/92 = **0.46**
- Bicycle: 8/92 = **0.09**
- Walking: 7/92 = **0.08**

0.38+0.46+0.09+0.08 = **1.01**

(It would be exactly 1 if we had used perfect accuracy),