

## **Combinatorics, Probability, Statistics**

Binomial theorem

Binomial coefficient

- “n choose k”

Box plot

Coin flipping = coin tossing

Combination

- with repetition

Conditional probability

Critical value (in a hypothesis test)

Cumulative Probability Distribution Function

Discrete probability

Distribution

- normal
- binomial

Distributive function

Expected value

Experiment

Event

- dependent
- independent
- certain  $\rightarrow$  certainty ( $n.$ )
- impossible  $\rightarrow$  impossibility ( $n.$ )
- disjoint events = mutually exclusive events

Factorial

Frequency

Hypothesis testing

- null hypothesis
- alternative hypothesis
- p-value
- significance level

Mean = arithmetic mean (*less precisely* average)

Median

Mode

Outcome

- possible
- favourable
- equally likely

Outlier

Parameter

Permutation

Population

Probability distribution

Probability density function

Quartile

- upper / lower quartile

- inter-quartile range

Quantile

Random variable

r-arrangement (sometimes called ‘variation’)

Sample space = event space

Sample  $(n., v.) \rightarrow$  sampling

- random sample

Standard deviation

Variable

- random
- continuous  $\times$  discrete
- quantitative
- ordinal
- qualitative
- dependent  $\times$  independent

Variance