

8 Probability

8.1 Introduction to probability

Notes and examples

- 1 Understand and use the probability scale from 0 to 1.
- 2 Understand and use probability notation.
- 3 Calculate the probability of a single event.
- 4 Understand that the probability of an event not occurring = $1 -$ the probability of the event occurring.

$P(A)$ is the probability of A .

$P(A')$ is the probability of not A .

Probabilities should be given as a fraction, decimal or percentage.

Problems may require using information from tables, graphs or Venn diagrams.

e.g. $P(B) = 0.8$, find $P(B')$.

8.2 Relative and expected frequencies

Notes and examples

- 1 Understand relative frequency as an estimate of probability.
- 2 Calculate expected frequencies.

e.g. use results of experiments with a spinner to estimate the probability of a given outcome.

e.g. use probability to estimate an expected value from a population.

Includes understanding what is meant by fair, bias and random.

8.3 Probability of combined events

Notes and examples

Calculate the probability of combined events using, where appropriate:

- sample space diagrams
- Venn diagrams
- tree diagrams.

Combined events could be with or without replacement.

The notation $P(A \cap B)$ and $P(A \cup B)$ may be used in the context of Venn diagrams.

On tree diagrams outcomes will be written at the end of the branches and probabilities by the side of the branches.