

Ch 31 Probability (C)



All probabilities lie in the range [0, 1].

Complementary events

- ightarrow one or the other must occur, each excludes the other
- \rightarrow The sum of the probabilities of the two complementary events must always equal 1 (*total probability*).

Calculating theoretical probabilities

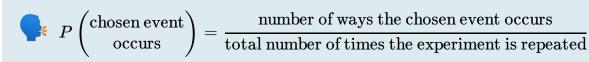
ightarrow when the events are equally likely, fair, unbiased



When all events are equally likely
$$P\left(\begin{array}{c} \text{obtaining our} \\ \text{chosen event} \end{array}\right) = \frac{\text{number of ways the chosen event can occur}}{\text{total number of possibilities}}$$

Calculating experimental probabilities

 \rightarrow when events are not equally likely



Independent events



If events A and B are independent, then the probabilities of obtaining A and B is given by $P(A ext{ and } B) = P(A) imes P(B)$

Ch 31 Probability (C) 1