CONCEPT MAP

FORM 4

PROBABILITY OF COMBINED EVENTS

Combined Events

Situations involving two or more events which are **related by the word 'and' or 'or'.**

Mutually Exclusive Events

The events A and B are mutually exclusive such that if one event occurs, the other event will not occur at the same time.

Independent Events

If event A does not influence the occurrence of event B, then A and B are independent events and vice versa.

Probability of Combined Events A Or B

(a) $P(A \cup B) = \dfrac{n(A \cup B)}{n(S)}$

(b) If $A \cap B \neq \phi$, then

$P(A \cup B) = P(A) + P(B) - P(A \cap B)$

(c) If $A \cap B = \phi$, then $P(A \cup B) = P(A) + P(B)$ [Mutually exclusive events]

Probability of Combined Events A and B

(a) $P(A \cap B) = \dfrac{n(A \cap B)}{n(S)}$

(b) $P(A \cap B) = P(A) \times P(B)$ [Independent events]

Applications of Probability of Combined Events

Solving probability problems which involve combined events using tree diagram or by reasoning.

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