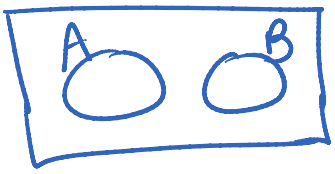
5.4 Mutually Exclusive Events

Thursday, May 02, 2013
9:04 AM

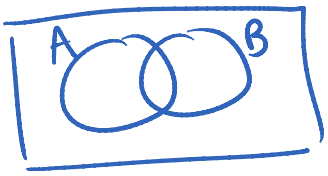
Mutually exclusive – no common Events

- 

no overlap

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

Non-mutually exclusive – common events, overlap

- 

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

$=0$ in the case of mutually exclusive

5.5 Conditional Probability

Dependent events – outcomes are affected by each other

- ex if you pull an A of ♡ out of a deck and do not replace it, then the next card has a lower chance of being an A or a ♡

Conditional Probability - the probability of an event "B" occurring given that another event "A" has already occurred.

$$P(B|A) = \frac{P(A \cap B)}{P(A)}$$ ← overlap area

(tree diagrams help sometimes)