

## 12.4 Probability of Compound Events

### VOCABULARY

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**Compound event** The union or intersection of two events

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**Mutually exclusive events** Events  $A$  and  $B$  are mutually exclusive if the intersection of  $A$  and  $B$  is empty.

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**Complement** The complement of event  $A$ , denoted  $A'$ , consists of all outcomes that are not in  $A$ .

### PROBABILITY OF COMPOUND EVENTS

If  $A$  and  $B$  are two events, then the probability of  $A$  or  $B$  is:  
 $P(A \text{ or } B) = \underline{P(A) + P(B) - P(A \text{ and } B)}$

If  $A$  and  $B$  are mutually exclusive, then the probability of  $A$  or  $B$  is:  $P(A \text{ or } B) = \underline{P(A) + P(B)}$