

Set Symbols used in Probability Theory

The following set theory symbols are widely used in probability theory, and are provided for your use in reading books other than the text book. In addition, I will often use them in class.

1. If x is an element or member of the set S , we write $x \in S$.
2. If x does not belong to S , then $x \notin S$.
3. If every member of set S is also a member of set T , then $S \subset T$, and S is called a subset of T .
4. If S and T are sets, there are two set-combinations of them:
 - a. The intersection $S \cap T$, which is a set containing every element that is in both S and T .
 - b. The union $S \cup T$, which is a set containing every element that is in either S or T , or both.
5. A set with no members is called the empty set, and has the symbol Φ .
6. Two sets, A and B , are called disjoint if they have no members in common or equivalently, if $A \cap B = \Phi$.
7. The complement of a set E contains all the elements in the sample space that are not in E , the symbol is E^C .