

**TOOL:** If we start with several mutually exclusive events, say  $A$ ,  $B$ , and  $C$ , we may create a partition of sample space  $S$  by adding one more event,  $D$ , which we may describe as "other", meaning it contains all outcomes not in  $A$ ,  $B$ , or  $C$ . For example, if we are talking about the parties people voted for in an election, we might say  $A$  = Democrat,  $B$  = Libertarian,  $C$  = Republican, and  $D$  = other. On a Venn diagram,  $D$  is the area around the outside of  $A$ ,  $B$ , and  $C$ .

