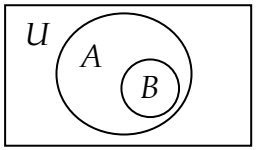
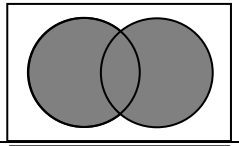
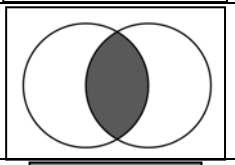
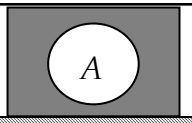
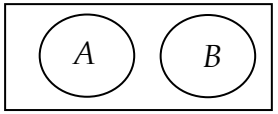
Set Notation and Terminology

Term	Notation	Meaning	Diagram
Universal Set	U	Set consisting of all objects under consideration.	
Empty Set	$\varnothing$	Set with no elements.	
"is an element of "	$\in$	$3 \in A$ means that 3 is one of the objects in the set A	
"is a subset of"	$\subseteq$	$B \subseteq A$ means that every object in the set B is also an object in the set A; $\{3\} \subseteq A$ means that the set consisting of the element 3 is a subset of the set A.	
Union	$\cup$	$A \cup B$ is the set consisting of all objects that are either in the set A **or** the set B.	
Intersection	$\cap$	$A \cap B$ is the set consisting of all objects that both in the set A **and** the set B.	
Complement	$A' = A^c = \overline{A}$	The set of all objects that are **not** in A.	
Size of a set	$\lvert A \rvert$	The number of elements in a set.	
Disjoint	$A \cap B = \varnothing$	The two sets A and B are disjoint means that there are no elements that are in both sets.	
Difference/Set subtraction	$A - B$	The difference "A minus B" is all of the elements that are in A and are not in B.