Instructions: Show all work. Answers without work can only be graded all or nothing. Partial credit is available only when work is shown.

- 1. Suppose that the Universal set is the set of all letters (of a single case) in the English alphabet. And suppose that set $A = \{x | x \text{ is a letter in the word Mississippi}\}$ and that set $B = \{x | x \text{ is a letter in the words North Dakota}\}$. If the set described is empty use one of the appropriate notations for the empty set.
 - a. List the elements of set A
 - b. List the elements of set B
 - c. List the elements of $A \cup B$
 - d. List the elements of $A \cap B$
 - e. List the elements of B' or (B^c)
 - f. Find |B'| = n(B')
- 2. Use a Venn diagram to illustrate each of the following situations.
 - a. $B \subset A$
 - b. $A' \cap B'$