2. Problem 3.4 & 3.5

   The big-Oh running time for *intersection* method would be:

   $O(N^2)$

   The big-Oh running time for *union* method would be:

   $O(N)$

3. Problem 3.8
   a. If *theSize* is not defined before the for-loop, the condition in the for-loop would have to be calculated each time, which would increase the running time of the overall method.
   b. ArrayList takes a constant time, and this method takes a for-loop.
      Total time = $O(N \times N) + O(1)$
      Therefore, $O(N^2)$
   c. LinkedList takes a constant time, and this method does not have any loop.
      Total time = $O(N) + O(1)$
      Therefore, $O(N)$
   d. No, using an iterator would not make *removeHalf* faster for either type of List.