1. Problem 3.4 & 3.5

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

O(N2)

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

O(N)

1. Problem 3.8
   1. 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.
   2. ArrayList takes a constant time, and this method takes a for-loop.

Total time = O(N x N) + O(1)

Therefore, O(N2)

* 1. LinkedList takes a constant time, and this method does not have any loop.

Total time = O(N) + O(1)

Therefore, O(N)

* 1. No, using an iterator would not make *removeHalf* faster for either type of List.