Name ______________________________________

• You have 15 minutes

1. For the following graphs, if the graph is Hamiltonian, list the vertices in the order of a Hamiltonian cycle. Otherwise, write NOT HAMILTONIAN.

   (a) A
       B
       C
       D

   (b) A
       B
       C
       D

2. True or False:
   (a) If a graph is not connected then it must be not Hamiltonian.  TRUE / FALSE
   (b) If a graph is connected then it must be Hamiltonian.  TRUE / FALSE

3. You must visit Altgeld, the Armory, and Mckinley in some order. Below is a graph showing the time (in minutes) it takes to walk between these places and your home. Starting from home, use the Nearest-Neighbor Algorithm to find a Hamiltonian cycle in the graph where you visit every place and return back home. In what order should you walk? What is the total amount of time you need to walk using this algorithm?