

**Review Questions 7**

***Your Name:***

Please print out this form (two-sided, if you can) and write your answers *legibly* in the spaces provided. If you can't write legibly, type.

1. Draw a directed graph with at least six vertices and ten edges, with edge weights in the range  $[-2, 5]$ , taking care to avoid negative length cycles. Draw a second copy of the graph, in which each edge length has been replaced by the transformed lengths described in the reading assignment.
  
2. Pick two vertices from your graph, and pick two different 3 edge paths connecting these vertices. Compute the lengths of these paths using both the original lengths and the transformed lengths. For each path, what is the difference between the path length computed with the original edge lengths, and the path length computed using the transformed edge lengths?

3. How does the length of a cycle in a graph using the transformed edge lengths compare to the length of the same cycle using the original edge lengths? Explain.