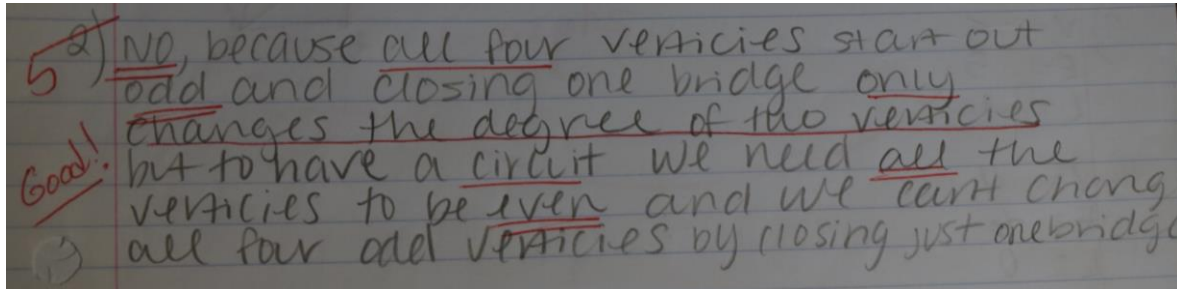


## Homework 1: 9.1 #2 and ES #2 – Examples of answers that were full and correct:

For 9.1 #2 you were asked if you could close one bridge in Königsberg to create a circuit – if “yes,” to show how, and if “no” to explain why not. The heart of the issue is that all 4 vertices are odd and closing one bridge only impacts 2 vertices (making them even rather than odd), but for a circuit you would need **ALL FOUR** vertices to be even, and you cannot change all 4 odd vertices by closing **only one** bridge. A number of you did an excellent job in answering this. Here is one example of an excellent answer:



For ES #2 the directions state that this is to be done as was #1 – following all parts of those directions. Problem 1 says (including the caps, underlining, italicizing and bolding following): “**DRAW A GRAPH** consisting of vertices and edges to **model** this diagram.” Be sure to follow directions!! Here is an example of an excellent student answer – of which there were a few, but not many.

2) Here are two additional “houses.” The question you’re being asked regarding each of these is the same as in problem #1 on the previous page. Be sure to address each part of the directions.

a) b)

6a) 5

6b)

It is possible to go through all the rooms using each door exactly once because in graph a, there is no more than two odd vertices and in graph b, there are no odd vertices.

Excellent!!