Final Exam May 14, 2009   SHOW ALL WORK
Math 151

Choose 7 out of the following 10 problems: **Clearly indicate which 7 problems you choose.** These 7 problems will be worth 15 points each. You may do all problems. If you do not correctly choose your top 7 problems, I may change your choices (with a penalty) if it improves your grade.

Do not grade the following 3 problem(s): _____

Problems 1-5 may involve definitions, computation/algorithms, counter-examples, and/or True/False

6.) Describe how to mathematically model the following problem. Clearly define

(a.) your (di)graph (e.g. what your vertices/edges or arcs/etc mean) and the graph theory problem,

(b.) an algorithm you can use to solve the corresponding graph theory problem,

(c.) how the solution to part (b.) can be applied to the problem you are modeling.

(d.) Solve for the simple case described below.

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(d.) Solve for the simple case described below.

8.) Prove the following:

9.) Prove the following:

10.) Prove the following: