

Assignment XI, Math 187

Dr. Holmes

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This assignment is due Wednesday, 28 July. Some questions are in sections we have not covered yet, but we will shortly arrive there, and you may of course read ahead. 15.8 is a general section of chapter 15 problems from all sections – most problems in 15.8 are things we *have* covered!

There will probably be one more homework assignment, due at the final.

1. Do the following problems from section 15.8 : 1, 2 (extra credit – it is harder), 4, 8, 12.
2. Show that the graph in problem 15.4.4 has no Hamiltonian cycle.
Hint: you can do this by drawing a tree diagram of all possible paths through the tree from some fixed vertex, and showing that each possible path eventually gets stuck in a way which prevents extending it to a cycle. The diagram will be large, but not completely unmanageable.
3. Do problem 15.6.2. The chromatic numbers of the three graphs are found in the back of the book, but you need to give a coloring with the right number of colors and an argument in English that fewer colors won't work, for each graph.
4. Do problem 15.7.1. Hint: your order doesn't always need to go from a vertex to a neighboring vertex. Be sure to give an order on the vertices, not just a coloring!!!
5. Do problem 15.7.4.