Fall 2017/MA 397 HW 1: Graphs!

Graph Theory is a subject full of wonderful problems and interesting ideas. Some of the problems below are just intended to cement basic concepts or give practice with basic calculations, while others are intended to require substantial insight and even, occasionally, cleverness.

Remember that, although you are encouraged to work together, all of your write-ups must be your own (no copying someone else's solution - not even with minor wording changes.) **List the names of everyone you worked with on the HW!** You are encouraged to **not** look online for solutions - your time is better spent wrestling with the proof yourself or getting help from the professor, than squandering it online.

1. Reading

- Read Pages 1 - 6 of the text.
- Memorize the definition of **graph**, **simple graph**, **null graph**, **graph complement**, **clique**, **independent set**, **bipartite graph**.

2. To do

(1) Do problems 1.1.1, 1.1.10, 1.1.11. Remember to explain your answers! You will usually want to include pictures in your solutions to help your explanations. Feel free to use colored ink to help make points or draw attention to features of your solutions.

These problems are an opportunity to begin working with graphs. None of them is particularly important in and of themselves. We'll soon get to homework problems that are!