Implicit in any homework problem is that you must explain why your answer is correct, even if the problem does not ask for a formal proof. You should write in complete sentences with reasonably correct grammar. Math 5345 is not a writing intensive course, but it *is* a 5000-level mathematics course, and at this level you're expected to be able to explain your work in a coherent, organized and logical manner.

Remember to prove *both* directions of any "if and only if" statements. (If you haven't yet taken a proof-writing course or aren't sure what this means, ask me.)

Section 1.1: 2, 5, 10
Section 1.2: 2, 4, 7, 22, 23

Also: (A) Are the irrationals countable or uncountable? Prove your answer is correct.