

Proofs by Contradiction

- Read carefully pages 132 through 137 (sections 5.4, 5.5)
- Some key questions to answer (try these without looking at the book, but after you've read the book):
 1. What is an existence theorem? How does an existence proof usually proceed?
 2. Does an existence proof always have to produce an actual solution to the problem?
 3. Study in particular results 5.21 and 5.22
 4. How do we prove a solution is unique? What proof techniques do the different approaches use?
 5. How do we disprove existence statements?
- Practice problems from section 5.4 (page 139): 5.45, 5.47
- Practice problems from section 5.5 (page 139): 5.49, 5.50, 5.51
- Challenge (optional): 5.52, 5.61, 5.62