

Problem Set 7: Inner Product Spaces Due Thursday, July 28th

From FIS, 3rd edition:

- Read the proof of Theorem 6.1a, and prove Theorems 6.1b and 6.2a.
- p. 322, #4 (only the calculation—no need to complete the proof), #8
- p. 323, #10
- p. 335, #2a (use Gram-Schmidt to find the orthonormal basis β —ignore the rest of the question), #4 (answer in book, but show how you get it).
- p. 337, #17c (*Hint*: You will need to find an orthonormal basis for W . Once you have done this, the formula from class still works even though V is infinite dimensional), #18 (for part (c) of exercise 17)
- *Extra Credit*: p. 325, #23