

**APPM 3310 — Problem Set 4**  
Due: Wednesday, September 23, 2009

1. Section 2.1, p 83: #3, 7ac, 11
2. Section 2.2, p 87: #2abcf, 6, 12bdg\*, 13abdh, 24bcd\*\*
  - (a) \*Remember that you must explain why each set is, or is not, a subspace.
  - (b) \*\* Complimentary subspaces, defined in #24, are important in understanding the structure of a matrix. We will see this idea several times throughout the semester.
  - (c) If you want more practice on determining what is, and is not, a subspace, try your hand at 2.2.2 and we can discuss it in office hours or at the homework review session. You need not turn this problem in.
3. Section 2.3, p 93: #7, 11
4. Section 2.3, p 99: #21cdg, 23, 25, 26, 27

Here are some problems that you should do, but do not need to turn in. (Hint: these concepts are important and could be good test questions):

- 2.2.14
- 2.3.15
- 2.3.17