

Please complete following problems.

1. [FIS P366 10].
2. [FIS P367 14].
3. [FIS P375 2 (a) (c) (e)].
4. [FIS P375 4].

In the final exam, you will be given the statement of three theorems and you need to give proof for one of them. The three theorems are chosen from the following theorems:

1. The replacement theorem Thm 1.10;
2. The dimension theorem Thm 2.3;
3. Thm 5.5;
4. Thm 5.7;
5. Thm 5.8;
6. Thm 5.9;
7. The Riesz representation theorem;
8. Thm 6.6 and its corollary;
9. Thm 6.16.