1. (12 points) Section 4.1, exercise 4
2. (18 points) Section 4.1, exercise 40
3. (15 points) Section 4.1, exercise 60. (Note: this should refer to Lemma 1 of Section 3.7, not Section 3.6). You may use Theorems/Lemmas/etc. proved in the book as long as you cite them clearly and do not use any statement whose proof depends on the Lemma you are trying to prove. In particular, you may find Lemma 1 of Section 3.7 useful.
4. (10 points) Section 4.2, exercise 4
5. (15 points) Section 4.2, exercise 12
6. (15 points) Section 4.2, exercise 28
7. (15 points) Section 4.2, exercise 30
8. (optional) Chapter 4, Supplementary exercise 38