Instructions.

• The homework should be your own, without any collaboration or consulting sources such as the Web.

• Please include partial solutions if you cannot fully solve a problem.

• Neatly write your solutions and staple your work; late homework will not be accepted.

• The problems below are the numbered exercises given in the textbook.

1. Exercise 3.1.  (10 points)
2. Exercise 3.2.  (5 points)
3. Exercise 3.3.  (10 points)
4. Exercise 3.4.  (5 points)
5. Exercise 3.5. (Note that an equivalence is an “if and only if” statement: so, you need to prove that Definition 3.8 implies Definition 3.9, and vice versa.)  (10 points)
6. Exercise 3.6.  (10 points)