Problems 1-3 will be graded by a different person than problems 3-5. Thus please hand these in on separate pieces of paper.

1. At the bottom of page 148 in the text, we read:
   “... however, we can combine these into one occurrence using the Fischer-Rabin trick.”

Write down the resulting formula $\text{MULT}_{n+1}(x, y, z)$.

2. In the solution set for Homework 7, in the middle of page 338, we read
   “Using this as basis, an inductive argument using the lemma shows ...
   ”

Give this inductive argument.

3. On page 339, part (c), we read:
   “We want to give a winning strategy for Sonja.”

Why do we want to do this?

Remember: These last three problems should be handed in separately from the first two.

4. One paragraph later (on page 339), we read:
   “This is true by assumption for $k = 0$.”

Explain this.

5. On page 340, give the argument for part (vi).

6. In the middle of page 341, we read:
   “One can show by an inductive argument that ...”

Give the inductive argument. (Also, see the errata list for some minor problems on this page.)