1. Do the following exercises from the book:

- Section 9: 39
- Section 10: 28, 38, 46
- Section 11: 17

2. Prove that $A_4$ (the alternating group on 4 letters) does not have a subgroup of order 6. (Hint: Assume to the contrary that there is a subgroup $H$ of order 6, look at the right cosets of $H$ in $A_4$, and show $H\sigma^2 = H$ for all $\sigma \in A_4$).