Before beginning this homework assignment, please review the guidelines for submitting homework. Remember to write down the total amount of time spent working on the assignment at the top of what you turn in.

1. **Axiomatic Set Theory**

   (1) Read Section A.1.


   (The proofs here are likely to be at least somewhat challenging. The early ones might be challenging, because it is sometimes hard to prove “obvious” facts. The later ones might be challenging because you have lots of puzzle pieces and you need to find the ones that fit together to give the result you want. The proofs of these theorems are good exercises in the basic proof strategies discussed in Section 1; you might find it helpful to go back and review those.)