Standard Set Operations

- Read pages 21 through 24 (section 1.3)
- Some key questions to answer:

  1. What is the union of two sets? How is it denoted?
  2. What is the intersection of two sets? How is it denoted?
  3. If a set is a subset of another, what is their union? What is their intersection?
  4. True or False: The union of two nonempty sets is nonempty.
  5. True or False: The intersection of two nonempty sets is nonempty.
  6. Is there a subset relation between the intersection of two sets and their union?
  7. When do we say that two sets are disjoint? Provide examples.
  8. What is the difference of two sets? How is it denoted?
  9. Can the difference between two nonempty sets be empty?
  10. Describe the fundamental set operations via Venn Diagrams
  11. What is the complement of a set? What do we need in order to be able to define it?
  12. Study example 1.15
  13. For two sets A and B, consider the sets $A \cap B$ and $A \setminus B$. What is the intersection of these two sets? What is their union?

- Practice problems from section 1.3 (page 32): 1.23, 1.26, 1.29, 1.34
- Challenge: 1.33, 1.35