Show all appropriate work.

1. Problems from the book:

   (a) Section 3.1: 1, 2, 3, 6.

   (b) Section 3.2: 2, 6, 8.

2. **BONUS:** Show that $n(B - A) = n(B) - n(A \cap B)$ without using a Venn Diagram. Hint: Look at how $A \cup B$ is written in the proof of Theorem 3.1.2.