Math 3000, Homework assignment #4

- Do problems 25 and 26a in Section 2.1. Turn in 25.
- Do these problems from Section 3.4: 1,2abghi,3abe,4abe,5abdef,7gh. Turn in 2,4 and 7.
- Let $S \subseteq \mathbb{R}$. Prove: S is closed if and only if $\mathbb{R}\backslash S$ is open. (Hint: use the theorem that says bd(S) = bd($\mathbb{R}\backslash$S).)
- Prove: If A and B are subsets of $\mathbb{R}$, then $A\backslash B = A \cap (\mathbb{R}\backslash B)$.
- Prove: If A is closed and B is open, then $A\backslash B$ is closed and $B\backslash A$ is open. (Hint: use the preceding problem.)
- Turn in all of the above.
- Read section 3.4 from p.138 to the end.