

## Homework for Sept 11

1. Prove, using mathematical induction, that the sum of the first  $n$  natural numbers is  $n(n + 1)/2$ .
2. Sider exercises 2.6, 2.7, 2.9, 2.11 (a and b).
3. Say that a set  $S$  of wffs is inconsistent\* iff  $S \vdash B$  and  $S \vdash \neg B$ . Prove that  $S$  is inconsistent\* iff it is inconsistent (ie inconsistent according to Sider's definition).
4. "extra credit" (ie try for fun if you want): Sider ex 2.8.

Note: "I don't know how to do this" is always an acceptable answer.