Homework for Wednesday, September 27

1. Show that for every positive integer n except 2, 3, and 6 there is a wff of length n. For example, the wff A_{250} has length 1 and $(\neg A_{250})$ has length 4. Of course there are infinitely many numbers left, so you have to show how all of these numbers can be reached.

2. Show that there is no wff of length 2, 3, or 6. This argument will look a little different from the one above.

3. It is obvious that $(A_3 \rightarrow \wedge A_4)$ is not a wff. But prove that this is so. Since a wff is a member of every inductive set, it will suffice to find an inductive set that does not contain this expression.

4. Show that if α and β are wffs, then $\alpha^\frown\beta$ is never a wff. Here $\alpha^\frown\beta$ is the *concatenation* of α and β, namely the expression that begins with α and continues with β.