Logic 1, WS 2006. Additional Homework 1, given Oct 12, due Oct 19

1. Using the DeMorgan rules for quantified formulae, prove $\neg \forall_{C[x]} \phi[x] \equiv \exists_{C[x]} \neg \phi[x]$ and its dual, where $C[x]$ is a condition on x (like e. g. x is in a certain set), and $\phi[x]$ is a formula containing x.

2. Prove $\neg \wedge \Phi \equiv \vee \overline{\Phi}$, where Φ is a set of formulae and $\overline{\Phi}$ is the set of the respective negated formulae.