Winter 2011

Problem: Prove the following by induction.

If $n \in \mathbb{N}$, then $(n + 1)! \geq 2^n$.

Recall that, by definition, $0! = 1$ and, if $n \geq 1$, then $n! = n \cdot (n-1)!$.

Autumn 2011

Problem: Prove the following by induction.

If $n \in \mathbb{N}$, then $n^n \geq n!$.

Recall that, by definition, $0! = 1$ and, if $n \geq 1$, then $n! = n \cdot (n-1)!$.