Math 10850, Honors Calculus 1

Quiz 4, Thursday September 26

Name:

1. State the principle of mathematical induction *clearly* and *completely*. I'll get things started for you: "Let $p(n)$ be a predicate, where the universe of discourse for n is $\mathbb{N}$ ...

2. Let k be a fixed natural number. Prove (carefully, and with a neat & clear layout) that for all $n \geq k$,

$$\binom{k}{k} + \binom{k+1}{k} + \cdots + \binom{n}{k} = \binom{n+1}{k+1}.$$